



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Railroad Administration**

#### **49 CFR Part 236**

**[Docket No. FRA-2019-0075, Notice No. 2]**

**RIN 2130-AC75**

### **Positive Train Control Systems**

**AGENCY:** Federal Railroad Administration (FRA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** FRA is revising its regulations governing changes to positive train control (PTC) systems and reporting on PTC system performance. First, recognizing that the railroad industry intends to enhance FRA-certified PTC systems to continue improving rail safety and PTC technology's reliability and operability, FRA is modifying the process by which a host railroad must submit a request for amendment (RFA) to FRA before making certain changes to its PTC Safety Plan (PTCSP) and FRA-certified PTC system. Second, to enable more effective FRA oversight, this final rule: expands an existing reporting requirement by increasing the frequency from annual to biannual; broadens the reporting requirement to encompass positive performance-related information, including about the technology's positive impact on rail safety, not just failure-related information; and requires host railroads to utilize a new, standardized report form.

**DATES:** This final rule is effective [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

**ADDRESSES:** For access to the docket to read background documents or comments received, go to <https://www.regulations.gov> at any time and search for Docket No. FRA-

2019-0075.

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## *I. Energy Impact*

### **I. Executive Summary**

Section 20157 of title 49 of the United States Code (U.S.C.) mandates each Class I railroad, and each entity providing regularly scheduled intercity or commuter rail passenger transportation, to implement an FRA-certified PTC system on: (1) its main lines over which poison- or toxic-by-inhalation hazardous materials are transported, if the line carries five million or more gross tons of any annual traffic; (2) its main lines over which intercity or commuter rail passenger transportation is regularly provided; and (3) any other tracks the Secretary of Transportation (Secretary) prescribes by regulation or order.<sup>1</sup> By law, PTC systems must be designed to prevent certain accidents or incidents, including train-to-train collisions, over-speed derailments, incursions into established work zones, and movements of trains through switches left in the wrong position.<sup>2</sup>

Currently, 35 host railroads—including 7 Class I railroads, 23 intercity passenger railroads or commuter railroads, and 5 Class II or III, short line, or terminal railroads—are directly subject to the statutory mandate.<sup>3</sup> The statutory mandate generally required that by December 31, 2020, FRA-certified and interoperable PTC systems must govern operations on all PTC-mandated main lines, currently encompassing nearly 58,000 route miles nationwide.<sup>4</sup> 49 U.S.C. 20157(a); 49 CFR 236.1005(b)(6)–(7).

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<sup>1</sup> Rail Safety Improvement Act of 2008, Pub. L. No. 110-432, 104(a), 122 Stat. 4848 (Oct. 16, 2008), as amended by the Positive Train Control Enforcement and Implementation Act of 2015, Pub. L. No. 114-73, 129 Stat. 568, 576–82 (Oct. 29, 2015), and the Fixing America’s Surface Transportation Act, Pub. L. No. 114-94, section 11315(d), 129 Stat. 1312, 1675 (Dec. 4, 2015), codified as amended at 49 U.S.C. 20157. *See also* Title 49 Code of Federal Regulations (CFR) part 236, subpart I.

<sup>2</sup> 49 U.S.C. 20157(g)(1), (i)(5); 49 CFR 236.1005 (setting forth the technical specifications).

<sup>3</sup> The infographics on FRA’s PTC website (<https://railroads.dot.gov/train-control/ptc/positive-train-control-ptc>) identify 41 railroads subject to the statutory mandate as of December 31, 2020, but six of those 41 railroads are tenant-only commuter railroads. As this final rule primarily focuses on requirements specific to host railroads, this final rule references the current number of PTC-mandated *host* railroads (35) and any host railroads that may either become subject to the statutory mandate or voluntarily implement PTC systems in the future. Section V (*Regulatory Impact and Notices*) estimates this final rule and FRA’s PTC regulations in general will apply, on average, to 1.5 additional host railroads per year.

<sup>4</sup> Except a railroad’s controlling locomotives or cab cars that are subject to either a temporary or permanent exception under 49 U.S.C. 20157(j)–(k) or 49 CFR 236.1006(b), *Equipping locomotives operating in PTC territory*.

On December 29, 2020, FRA announced that railroads had fully implemented PTC technology on all PTC-mandated main lines.<sup>5</sup> As of that date, railroads reported that interoperability<sup>6</sup> had been achieved between the applicable host railroads and tenant railroads that operate on PTC-mandated main lines, which included 209 interoperable host-tenant railroad relationships as of December 2020.<sup>7</sup> Furthermore, as required under 49 U.S.C. 20157(h), FRA approved each host railroad's PTCSP and certified that each PTC system<sup>8</sup> complied with the technical requirements for PTC systems under FRA's regulations.<sup>9</sup>

Through FRA's nine PTC Symposia and Collaboration Sessions, from 2018 to 2020, and other regular coordination with railroads implementing PTC systems, PTC system vendors and suppliers, and other stakeholders, FRA proactively identified aspects of FRA's existing PTC regulations that could impede either PTC-related innovation or FRA's oversight, after the statutory deadline of December 31, 2020. Accordingly, on December 18, 2020, FRA issued a Notice of Proposed Rulemaking (NPRM) to amend its PTC regulations to modify two regulatory provisions, 49 CFR 236.1021 and 236.1029(h), which, if not revised, would impede the industry's ability to advance PTC technology efficiently and FRA's ability to oversee the performance and reliability of PTC systems

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<sup>5</sup> FEDERAL RAILROAD ADMINISTRATION, FRA Announces Landmark Achievement with Full Implementation of Positive Train Control (Dec. 29, 2020), *available at* <https://railroads.dot.gov/sites/fra.dot.gov/files/2020-12/fra1920.pdf>.

<sup>6</sup> "Interoperability" is the general requirement that the controlling locomotives and cab cars of any host railroad and tenant railroad operating on the same main line must communicate with and respond to the PTC system, including uninterrupted movements over property boundaries, except as otherwise permitted by law. 49 U.S.C. 20157(a)(2)(A)(i)(I), (a)(2)(D), (i)(3), (j)–(k); 49 CFR 236.1003, 236.1006, 236.1011(a)(3).

<sup>7</sup> For purposes of FRA's PTC regulations, a host railroad is "a railroad that has effective operating control over a segment of track," and a tenant railroad is "a railroad, other than a host railroad, operating on track upon which a PTC system is required." 49 CFR 236.1003(b).

<sup>8</sup> Currently, the following PTC systems are in operation in the United States: (1) the Interoperable Electronic Train Management System (I-ETMS), which Class I railroads and many commuter railroads have fully implemented; (2) the Advanced Civil Speed Enforcement System II (ACSES II) or the Advanced Speed Enforcement System II (ASES II), the PTC system most railroads operating on the Northeast Corridor (NEC) have fully implemented; (3) Enhanced Automatic Train Control (E-ATC), which five host railroads have fully implemented; (4) the Incremental Train Control System, which the National Railroad Passenger Corporation (Amtrak) has fully implemented in parts of Michigan; and (5) the Communication Based Train Control (CBTC) system, which one commuter railroad has fully implemented.

<sup>9</sup> 49 CFR 236.1009, 236.1015.

effectively.<sup>10</sup> FRA received seven sets of written comments in response to that NPRM, which were generally supportive of FRA's proposals. FRA responds to these seven sets of comments in Sections II (*Background and Public Participation*) and IV (*Section-by-Section Analysis*) of this final rule.

Based on the comments received, FRA is revising its PTC regulations in two ways. First, FRA is issuing this final rule to streamline the process under 49 CFR 236.1021 for RFAs to PTCSPs for FRA-certified systems. This revised RFA process requires host railroads to provide certain documentation, analysis, and safety assurances in a concise RFA. This final rule also establishes a 45-day deadline for FRA to review and approve or deny railroads' RFAs to their FRA-approved PTCSPs or FRA-certified PTC systems. In addition, this final rule permits host railroads utilizing the same type of PTC system to submit joint RFAs to their PTCSPs and PTC Development Plans (PTCDPs).

Second, FRA is expanding an existing reporting requirement—49 CFR 236.1029(h), *Annual report of system failures*—by increasing the frequency of the reporting requirement from annual to biannual; broadening the reporting requirement to encompass positive performance-related information, not just failure-related information; and requiring host railroads to utilize a new, standardized Biannual Report of PTC System Performance (Form FRA F 6180.152)<sup>11</sup> to enable more effective FRA oversight. In addition, FRA is amending § 236.1029(h) by updating the provision to use certain statutory terminology for consistency; clarifying the ambiguous filing obligation by specifying that only host railroads directly submit these reports to FRA; and explicitly requiring tenant railroads to provide the necessary data to their applicable host railroads.

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<sup>10</sup> 85 FR 82400 (Dec. 18, 2020).

<sup>11</sup> A copy of the form is available in the rulemaking docket.

FRA analyzed the economic impact of this final rule over a ten-year period and estimated its quantitative costs and benefits, which are shown in the table below. The business benefits associated with FRA’s revisions to § 236.1021—*i.e.*, to simplify the process for all RFAs to PTCSPs and authorize host railroads to file joint RFAs to PTCSPs and PTCDPs—will outweigh the costs associated with FRA’s expansion of the reporting requirement under paragraph (h) of § 236.1029. This final rule will also result in savings for the federal government.

**Net Benefits in Millions (2019 Dollars)**

	<b>Present Value 7%</b>	<b>Present Value 3%</b>	<b>Annualized 7%</b>	<b>Annualized 3%</b>
Industry Costs	(\$1.52)	(\$1.75)	(\$0.22)	(\$0.21)
Industry Business Benefits	\$6.12	\$7.20	\$0.87	\$0.84
Government Savings	\$17.98	\$21.19	\$2.56	\$2.48
<b>Net Benefits<sup>12</sup></b>	<b>\$22.58</b>	<b>\$26.64</b>	<b>\$3.21</b>	<b>\$3.12</b>

\*Note: Table may not sum due to rounding.

In addition to the quantified benefits in the table above, FRA expects this final rule will also result in safety benefits for the railroad industry. For example, this final rule will enable railroads to deploy PTC-related safety improvements and technological advancements more efficiently and frequently, under an expedited RFA process, and the expanded reporting requirement will help railroads and FRA identify systemic failures more quickly and precisely, enabling swifter intervention and resolution.

## **II. Background and Public Participation**

### *A. Legal Authority to Prescribe PTC Regulations*

Section 104(a) of the Rail Safety Improvement Act of 2008 required the Secretary of Transportation to prescribe PTC regulations necessary to implement the statutory mandate, including regulations specifying the essential technical functionalities of PTC

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<sup>12</sup> Net Benefits = (Industry Business Benefits + Government Savings) – Industry Costs.

systems and the means by which FRA certifies PTC systems.<sup>13</sup> The Secretary delegated to the Federal Railroad Administrator the authority to carry out the functions and exercise the authority vested in the Secretary by the Rail Safety Improvement Act of 2008. 49 CFR 1.89(b).

In accordance with its authority under 49 U.S.C. 20157(g) and 49 CFR 1.89(b), FRA issued its first final PTC rule on January 15, 2010, which is set forth, as amended, under 49 CFR part 236, subpart I, *Positive Train Control Systems*.<sup>14</sup> FRA's PTC regulations under 49 CFR part 236, subpart I, prescribe "minimum, performance-based safety standards for PTC systems . . . including requirements to ensure that the development, functionality, architecture, installation, implementation, inspection, testing, operation, maintenance, repair, and modification of those PTC systems will achieve and maintain an acceptable level of safety." 49 CFR 236.1001(a). FRA subsequently amended its PTC regulations via final rules issued in 2010, 2012, 2014, and 2016.<sup>15</sup>

In this final rule, FRA revises three sections, 49 CFR 236.1003, 236.1021, and 236.1029, of FRA's existing PTC regulations pursuant to its specific authority under 49 CFR 1.89 and 49 U.S.C. 20157(g), and its general authority under 49 U.S.C. 20103 to prescribe regulations and issue orders for every area of railroad safety.

*B. Public Participation Prior to the Issuance of the NPRM*

FRA regularly engages with host railroads, tenant railroads, and PTC system vendors and suppliers, as part of FRA's oversight of railroads' implementation of PTC systems on the mandated main lines under 49 U.S.C. 20157 and the other lines where railroads are voluntarily implementing PTC technology. This included multiple PTC Collaboration Sessions in 2019 and 2020.<sup>16</sup> For a detailed discussion regarding these

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<sup>13</sup> Pub. L. No. 110-432, 122 Stat. 4848 (Oct. 16, 2008), codified as amended at 49 U.S.C. 20157(g).

<sup>14</sup> 75 FR 2598 (Jan. 15, 2010).

<sup>15</sup> 75 FR 59108 (Sept. 27, 2010); 77 FR 28285 (May 14, 2012); 79 FR 49693 (Aug. 22, 2014); 81 FR 10126 (Feb. 29, 2016).

<sup>16</sup> All presentations from FRA's PTC Collaboration Sessions are available in FRA's eLibrary, including direct links on FRA's PTC website at <https://railroads.dot.gov/train-control/ptc/positive-train-control-ptc>.

sessions and other public participation prior to FRA's issuance of the NPRM, please see Section II-B of the NPRM.<sup>17</sup> The provisions in this final rule are based on FRA's own review and analysis, industry's feedback in 2019 and 2020 before publication of the NPRM, and the comments received on the NPRM.

*C. Introduction to Comments on the NPRM*

FRA received seven sets of comments from several associations, railroads, and individuals in response to the NPRM FRA published on December 18, 2020.<sup>18</sup> FRA lists here the comments it received in reverse chronological order. On February 16, 2021, the Association of American Railroads (AAR) and the American Short Line and Regional Railroad Association (ASLRRA) jointly filed comments on behalf of themselves and their member railroads. On February 16, 2021, the American Public Transportation Association (APTA) submitted comments on behalf of itself, its member organizations, and the commuter rail industry. Furthermore, on February 16, 2021, Amtrak and New Jersey Transit (NJT) submitted their own respective comments, noting that they also support AAR and ASLRRA's jointly filed comments. On December 30, 2020, David Schanoes submitted two separate comments on the NPRM. On December 21, 2020, Patrick Coyle submitted comments. FRA thanks each commenter for the time and effort put into the comments.

As most comments FRA received are directed at a specific regulatory change FRA proposed in the NPRM, FRA discusses them in the appropriate portions of Section IV (*Section-by-Section Analysis*) of this final rule.

In this section, FRA discusses only comments generally applicable to this rulemaking and comments outside the scope of the rulemaking. In general, the comments expressed support for both of FRA's proposals in the NPRM. Several commenters also

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<sup>17</sup> 85 FR 82400, 82403–04 (Dec. 18, 2020).

<sup>18</sup> 85 FR 82400 (Dec. 18, 2020).



commended FRA for proposing changes to its oversight and regulation of PTC technology now that it has been fully implemented on all main lines currently subject to the mandate.

In its comments, APTA asserts that, as a general matter, FRA must justify each proposal of its NPRM separately, taking issue with FRA's acknowledgement in the executive summary of the NPRM that the costs associated with expanding the reporting requirement under § 236.1029(h) are outweighed by the savings or business benefits incurred by FRA's streamlining of § 236.1021. More specifically, APTA states that these issues should not be considered together, and FRA must justify each proposal separately on its own merits.

FRA agrees that it should independently justify each change to its PTC regulations, which FRA has done in Sections III (*Summary of the Main Provisions in the Final Rule*), IV (*Section-by-Section Analysis*), and V (*Regulatory Impact and Notices*) of this final rule. Consistent with FRA's approach in the NPRM, this final rule identifies and explains the need and basis for each change. Intended only as an overview, Section I (*Executive Summary*) summarizes the overall industry costs, business benefits, government savings, and net benefits of the final rule.

In addition, APTA's comments include a general request from the commuter rail industry for FRA to review its cost-benefit analysis associated with the changes to § 236.1029(h) FRA proposed in the NPRM. Accordingly, based on comments received, FRA thoroughly reviewed and updated its estimate of the increased burden associated with expanding the reporting requirement under § 236.1029(h), which FRA discusses in Section V (*Regulatory Impact and Notices*).

Also, FRA received several comments that are outside the scope of this rulemaking. Specifically, an individual commented that all federal agencies must step up their activities related to cybersecurity, noting that PTC technology is one area where

FRA must proactively address cybersecurity needs. That comment acknowledges that a comprehensive attempt to addressing cybersecurity challenges would require a separate rulemaking. Although the comment is outside the scope of this rulemaking, FRA wants to note that its existing regulations establish security requirements for PTC systems under 49 CFR 236.1033, *Communications and security requirements*, including the requirement for all wireless communications between the office, wayside, and onboard components in a PTC system to provide cryptographic message integrity and authentication.<sup>19</sup> In addition, FRA notes that certain cybersecurity issues resulting in PTC system failures, defective conditions, or previously unidentified hazards are currently reportable under 49 CFR 236.1023, *Errors and malfunctions*, and cybersecurity issues resulting in initialization failures, cut outs, or malfunctions, will be reportable in the new Biannual Report of PTC System Performance (Form FRA F 6180.152) under 49 CFR 236.1029(h).

An individual also commented that FRA should expand the scope of 49 CFR 236.1023(b), *Errors and malfunctions*, to include third-party reports of software and firmware vulnerabilities. The comment rightfully observes that such a change is also outside the scope of this rulemaking, as the NPRM did not propose amending § 236.1023 and, therefore, this final rule does not address the substance of the comment.

### **III. Summary of the Main Provisions in the Final Rule**

#### *A. Establishing a New Process for Modifying FRA-Certified PTC Systems and the Associated PTCSPs*

FRA’s PTC regulations have always acknowledged that after “implementation of a train control system, the subject railroad may have legitimate reasons for making changes in the system design,” among other changes, including to a PTC system’s functionality.<sup>20</sup> Indeed, FRA is aware that host railroads will need to deploy new PTC software releases, among other changes, to ensure their PTC systems are performing

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<sup>19</sup> See also 49 CFR 236.1015(d)(20).

<sup>20</sup> 75 FR 2598, 2660 (Jan. 15, 2010).

properly—for example, to fix certain bugs or defects or eliminate newly discovered hazards. In addition to incremental changes to PTC systems that are necessary for the continued safe and proper functioning of the technology, FRA understands that several railroads and PTC system vendors and suppliers have chosen to design and develop their PTC systems to perform functions in addition to the minimum, performance-based functions specified under the statutory mandate and FRA’s regulations.

Currently, however, FRA’s PTC regulations prohibit a railroad from making certain changes to its FRA-approved PTCSP or FRA-certified PTC system unless the railroad files an RFA to its PTCSP and obtains approval from FRA’s Associate Administrator for Railroad Safety. 49 CFR 236.1021. Though FRA’s existing regulations specify that FRA will, to the extent practicable, review and issue a decision regarding a host railroad’s initially filed PTCSP within 180 days of the date it was filed, FRA’s regulations do not currently specify an estimated timeline for reviewing and approving or denying railroads’ subsequent RFAs to their PTCSPs.

Instead of the existing RFA approval process involving complex content requirements and an indefinite decision timeline, this final rule: (1) requires railroads to comply with a streamlined RFA process, including providing certain documentation, analysis, and safety assurances; and (2) establishes a 45-day deadline for FRA’s review and issuance of a decision. The improved process will enable the industry to implement technological enhancements more efficiently, and the clear timeline will help ensure a more predictable and transparent FRA review process going forward.

In addition, this final rule permits host railroads utilizing the same type of PTC system to submit joint RFAs to their PTCSPs and PTCDPs. Appreciating that changes to safety-critical elements, including software or system architecture, of a certain PTC system will likely impact multiple, if not most, railroads operating that same type of PTC system, FRA’s final rule outlines a path for such host railroads to submit joint RFAs to

their PTCSPs, with specific instructions under new paragraphs (l) and (m) of § 236.1021. FRA recognizes that modifying and simplifying the process for host railroads to submit RFAs to PTCSPs for FRA-certified PTC systems is necessary to facilitate required maintenance and upgrades to PTC technology and encourage railroads to enhance their PTC systems to continue to improve rail safety.

*B. Expanding the Performance-related Reporting Requirements*

FRA's regulations currently require a railroad to submit an annual report by April 16<sup>th</sup> each year regarding the number of PTC system failures, "including but not limited to locomotive, wayside, communications, and back office system failures," that occurred during the previous calendar year. 49 CFR 236.1029(h). The first failure-related annual reports pursuant to § 236.1029(h) were due on April 16, 2019, from the four host railroads whose statutory deadline was December 31, 2018, for the full implementation of a PTC system on their required main lines. FRA has found that the annual reports railroads submitted to date have been brief (*e.g.*, as short as half of a page) and included minimal information, but still technically satisfied the existing content requirements under § 236.1029(h).

Because the minimal information currently required under § 236.1029(h) does not permit FRA to monitor adequately the rate at which PTC system failures occur, or to evaluate improvements over time, FRA is revising § 236.1029(h) to enable FRA to perform its oversight functions effectively. Specifically, FRA is increasing the frequency of this reporting requirement from annual to biannual, which will enable FRA to monitor more closely trends in PTC system reliability. In addition, to ensure the data railroads submit under § 236.1029(h) are uniform, comparable, and objective, FRA is revising this reporting requirement by specifying the exact types of statistics and information the reports must include.

Furthermore, FRA is amending § 236.1029(h) to make it consistent with the temporary reporting requirement under 49 U.S.C. 20157(j)(4), as the existing statutory and regulatory provisions use different terminology to describe PTC-related failures. As background, the Positive Train Control Enforcement and Implementation Act of 2015 established a reporting requirement that applies only temporarily, from October 29, 2015, to December 31, 2021.<sup>21</sup> On June 5, 2020, the Office of Management and Budget (OMB) approved the Statutory Notification of PTC System Failures (Form FRA F 6180.177, OMB Control No. 2130-0553),<sup>22</sup> which FRA developed in 2019, and then revised in 2020 based on feedback from AAR and APTA.<sup>23</sup> Host railroads must submit that form monthly to comply with 49 U.S.C. 20157(j)(4) until that temporary reporting requirement expires on December 31, 2021.<sup>24</sup>

FRA's new Biannual Report of PTC System Performance (Form FRA F 6180.152) under revised § 236.1029(h) will incorporate both: (1) the minimal information currently required under § 236.1029(h); and (2) the corresponding types of data railroads must submit until December 31, 2021, in their Statutory Notifications of PTC System Failures (Form FRA F 6180.177). Similarly, this final rule revises § 236.1029(h) to utilize the failure-related terms under 49 U.S.C. 20157(j)—initialization failures, cut outs, and malfunctions—instead of the broad, imprecise term currently used in § 236.1029(h) (“failures”).

Furthermore, during meetings FRA held before publication of the NPRM, railroads observed that, under existing § 236.1029(h), it is unclear whether a host railroad, a tenant railroad, or both must submit the required reports to FRA, as the existing provision uses only the word “railroad.” In this final rule, FRA resolves this

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<sup>21</sup> 49 U.S.C. 20157(j).

<sup>22</sup> Available at <https://safetydata.fra.dot.gov/PTCSysFailuresFRAForm177/>.

<sup>23</sup> For additional detail, please see 84 FR 72121 (Dec. 30, 2019) and 85 FR 15022 (Mar. 16, 2020).

<sup>24</sup> See also 49 U.S.C. 20157(j)(4) and (e)(1) (authorizing DOT to assess civil penalties for any violation of the statutory mandate).

ambiguity by specifying that only host railroads must directly submit these reports to FRA. In addition, new paragraph (4) under § 236.1029(h) requires each applicable tenant railroad that operates on a host railroad's PTC-governed main lines to submit the necessary information to each applicable host railroad on a continuous basis, which will enable host railroads to submit their Biannual Reports of PTC System Performance to FRA, on behalf of themselves and their tenant railroads.

FRA considers its changes to § 236.1029(h) necessary to enable FRA to monitor the performance and reliability of railroads' PTC systems effectively throughout the country.

#### **IV. Section-by-Section Analysis**

##### *Section 236.1003 Definitions.*

FRA is adding three definitions to paragraph (b) of this section to help ensure that FRA and the railroad industry consistently interpret the failure-related terms under 49 U.S.C. 20157(j)—initialization failures, cut outs, and malfunctions—as FRA is now also using these corresponding terms in revised § 236.1029(h) and the associated Biannual Report of PTC System Performance (Form FRA F 6180.152). Specifically, as proposed in the NPRM, FRA's final rule generally adopts the definitions of these three terms that FRA currently utilizes in the Statutory Notification of PTC System Failures (Form FRA F 6180.177, OMB Control No. 2130-0553), which were, in part, revised and refined based on industry's feedback during the development of that corresponding form and the definitions therein.<sup>25</sup>

In its comments on the NPRM, APTA seeks FRA's confirmation that a specific type of failure should be categorized as either a cut out or a malfunction (*i.e.*, an *en route* failure), not an initialization failure. Specifically, APTA describes the following scenario: in a maintenance facility, before departing, a crew successfully initializes a PTC

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<sup>25</sup> See 84 FR 72121, 72125 (Dec. 30, 2019); 85 FR 15022, 15025–26 (Mar. 16, 2020).

system on both ends of a push-pull train (the locomotive and the cab car), and the train successfully enters PTC-governed territory with the PTC system functioning properly. Subsequently, when the crew switches to operating the cab car (instead of the locomotive or vice versa), the PTC system then fails to activate properly.

APTA requests confirmation that FRA would *not* consider this type of failure an initialization failure, but instead an *en route* failure, either a cut out or a malfunction. FRA concurs with APTA's interpretation. Under these specific circumstances, the PTC system was successfully initialized on both the locomotive and the cab car of the push-pull train, and the subsequent failure should be categorized as either a cut out or a malfunction, depending on the underlying facts, per the definitions under § 236.1003(b).

In addition, APTA requests confirmation that if the state of a PTC system is either "disengaged" or "failed," that state is categorized as a malfunction, not as a cut out, under FRA's definitions of those terms. FRA concurs with that interpretation. FRA's understanding is that if a PTC system conveys it has "disengaged" or "failed," it is likely due to a failure in the communications network or elsewhere in the system, and it would be categorized as a malfunction, not a cut out.

FRA received one comment requesting a change to its proposed definition of "malfunction."<sup>26</sup> Regarding FRA's proposed definition of "malfunction," an individual suggested that FRA should add the following clause to the end of the definition: "or any indication of unauthorized system access or other indicators of compromise described by system suppliers or vendors." FRA's proposed definition of "malfunction" in the NPRM was "any instance when a PTC system, subsystem, or component fails to perform the functions mandated under 49 U.S.C. 20157(i)(5), this subpart, or the applicable host railroad's PTCSP."

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<sup>26</sup> FRA did not receive any comments requesting a change to its proposed definition of "initialization failure" or "cut out."

FRA declines to add the requested clause to the end of the definition of “malfunction” for two reasons. First, host railroads have become accustomed to collecting data using the exact definition of “malfunction” FRA proposed in the NPRM, as FRA developed that definition with industry’s feedback during its establishment of the Statutory Notification of PTC System Failures (Form FRA F 6180.177). Second, FRA’s proposed definition of “malfunction” already captures certain instances that the commenter describes. For example, if a person or entity interferes with a PTC system, subsystem, or component to the point that the technology fails to perform the functions mandated under 49 U.S.C. 20157(i)(5), FRA’s PTC regulations, or the applicable host railroad’s PTCSP, that would fall squarely within the definition of “malfunction.”

This final rule adopts the three definitions FRA proposed of “cut out,” “initialization failure,” and “malfunction” in the NPRM, with one modification. In the clause that refers to a person cutting out a PTC system in the definition of “cut out,” FRA is adding the qualifying phrase “with authorization” to the definition in the final rule, which will help avoid the impression that trains crews may cut out a PTC system without first following the applicable procedures in the governing FRA-approved PTCSP and/or the railroad’s own operating rules. Other than the addition of those two words for clarification, this final rule adopts the three definitions FRA proposed in the NPRM.

*Section 236.1021 Discontinuances, Material Modifications, and Amendments.*

In general, the purpose of existing paragraphs (a) through (d) is to prohibit a railroad from making changes, as defined by this section, to a PTC system, PTC Implementation Plan (PTCIP), PTCDP, or PTCSP, unless the railroad submits an RFA, with the content requirements under existing paragraphs (d)(1) through (7), and obtains approval from FRA’s Associate Administrator for Railroad Safety.

In its comments, APTA states that § 236.1021 will present an undue burden to its members if FRA broadly interprets the types of changes (often referred to as “material



modifications”) that require a host railroad to file an RFA under § 236.1021(h).

Consistent with FRA’s statements in the NPRM, this rule does not revise the types of changes that trigger the filing of an RFA under existing paragraphs (h)(1) through (4) or the exceptions currently set forth under § 236.1021(i)–(k). The types of changes that relate specifically to this final rule because they impact a host railroad’s PTCSP and/or the underlying FRA-certified PTC system are the specific changes identified under existing paragraphs (h)(3) and (4)—*i.e.*, a proposed modification of a safety-critical element of a PTC system or a proposed modification of a PTC system that affects the safety-critical functionality of any other PTC system with which it interoperates.

FRA previously advised railroads about the scope of these terms, including common examples, during FRA’s PTC Collaboration Sessions and in FRA’s individual letters to railroads approving their PTCSPs and certifying their PTC systems. FRA remains available to answer questions about whether a specific type of change might trigger the requirement to file an RFA under existing § 236.1021(h). However, as this final rule does not revise the list of qualifying changes under existing § 236.1021(h)(1)–(4) or the exceptions currently set forth under § 236.1021(i)–(k), FRA will handle such inquiries on a case-by-case basis and not in this rule.

In addition, an individual commented that FRA should add a fifth type of change to existing paragraph (h), which FRA is not revising in this rulemaking. Specifically, the individual comments that FRA should add the following provision to the list of changes that trigger the filing of an RFA: “(5) Any change in PTC component software or firmware.” Even if FRA were amending the list under § 236.1021(h)(1)–(4), such an addition would be unnecessary as relevant changes to software or firmware are already covered within existing paragraphs (h)(3) and (4).<sup>27</sup> For example, this final rule

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<sup>27</sup> That is, proposed modifications to safety-critical elements of PTC systems or proposed modifications to a PTC system that affect the safety-critical functionality of any other PTC system with which it interoperates.

recognizes that certain software changes trigger the requirement to file an RFA under § 236.1021, and FRA refers to relevant software changes in Sections II (*Background and Public Participation*), III (*Summary of the Main Provisions in the Final Rule*), and IV (*Section-by-Section Analysis*), as well as new paragraph (m)(2)(ii) under § 236.1021, which requires an RFA to include any associated software release notes.

In general, FRA's revisions to § 236.1021 in this final rule are intended primarily to streamline the *process* by which host railroads must submit RFAs to their FRA-approved PTCSPs and FRA-certified systems, based on FRA's recognition that the railroad industry intends to update and enhance FRA-certified PTC systems to advance rail safety.<sup>28</sup> Accordingly, FRA's revisions to the process under existing paragraphs (a), (c), and (d) are limited to removing any references to PTCSPs or PTC systems from those paragraphs, as this final rule establishes a new, streamlined process for RFAs associated with FRA-approved PTCSPs and FRA-certified PTC systems under new paragraphs (l) and (m). In addition to removing references to PTCSPs from existing paragraphs (a), (c), and (d), this final rule removes paragraph (d)(7) in its entirety, and incorporates the general principle of paragraph (d)(7) into a new proposed paragraph, (m)(2)(i), as discussed below.

In this final rule, under new paragraph (l), FRA permits host railroads utilizing the same type of approval.<sup>29</sup> Because changes to safety-critical elements, including software or system architecture, of a certain PTC system will likely impact multiple, if not most, railroads implementing that same type of PTC system, this final rule outlines a path for such host railroads to submit joint RFAs to their PTCSPs, with specific instructions under new

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<sup>28</sup> For additional detail and background, please see the NPRM and Sections I (*Executive Summary*) and III-A (*Establishing a New Process for Modifying FRA-certified PTC Systems and the Associated PTCSPs*) of this final rule.

<sup>29</sup> The current set of PTC-mandated host railroads have fully implemented five types of PTC systems, though FRA acknowledges that, in several cases, railroads implemented PTC systems of the same type in different manners (*e.g.*, variances in design, functionality, and operation). This has required, and will continue to require, railroads to conduct additional testing and gap analyses to achieve and sustain interoperability, including configuration management.

paragraphs (l) and (m). FRA recognizes that many host railroads participate in system-specific committees or working groups to ensure they maintain PTC system interoperability, among other objectives. FRA considers it acceptable for an association, committee, or working group to submit a joint RFA under paragraph (l), but such a joint RFA must be explicitly on behalf of two or more host railroads, and each host railroad must sign the filing.

New paragraph (l) also specifies that only host railroads with the same PTC System Certification classification under 49 CFR 236.1015(e) may file a joint RFA to their PTCSPs. In its comments, APTA expresses general support for this provision, noting that many APTA members will benefit from this flexibility, especially railroads whose I-ETMS systems FRA has certified as mixed PTC systems. APTA further explains both that its members are “small organizations with limited staff, funding, and resources,” and that railroads operating ACSES II / ASES II, E-ATC, or non-vital, overlay I-ETMS systems may not benefit from this provision to the same extent.

In the NPRM, FRA acknowledged that while new paragraph (l) provides the same flexibility for *all* host railroads operating *all* types of PTC systems, some groups of railroads might be better positioned to begin filing joint RFAs immediately. Though this final rule generally authorizes host railroads, utilizing the same type of PTC system, to file RFAs to their PTCSPs jointly, FRA expects this aspect of the final rule, in the short term, primarily to impact host railroads implementing I-ETMS and E-ATC because each respective I-ETMS and E-ATC system is similar to others of the same type, with a baseline functionality.<sup>30</sup> Conversely, there is not a uniform standard or specification

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<sup>30</sup> Also, with respect to I-ETMS and similar systems, FRA acknowledges that in January 2021, FRA’s Railroad Safety Board approved AAR and ASLRRA’s joint petition, dated August 14, 2020, for a temporary waiver of compliance from 49 CFR 236.1021. Specifically, FRA’s approval of the waiver petition authorizes certain railroads to comply with an alternative RFA process, including the filing of joint RFAs, for PTCSP purposes. However, as requested, the waiver applies only to host railroads that operate an Interoperable Train Control PTC system that FRA has certified, or certifies, as a mixed PTC system under 49 CFR 236.1015(e)(4). FRA’s approval letter states the waiver is in effect for five years or until

currently underlying the ACSES II or ASES II PTC systems that host railroads have implemented on the NEC. In addition, there is an array of ACSES II suppliers, including for the onboard, wayside, and communications subsystems. In the future, however, as the ACSES II railroads finish establishing the Interoperable Change Management Plan they are currently developing and finalizing, it is possible that at least some of the host railroads utilizing ACSES II or ASES II will elect to submit joint RFAs to their respective PTCSPs for certain system-wide changes, consistent with the option under new paragraphs (l) and (m) of § 236.1021.

In short, FRA welcomes joint RFAs from any group of host railroads utilizing the same type of PTC system with the same certification classification, as new paragraph (l) states. FRA remains available to provide technical assistance to any railroads that have questions about this provision and how to utilize the flexibility therein.

Here is an example to help explain the practical effect of new paragraph (l). When an RFA is necessary under § 236.1021 to account for certain proposed changes to railroads' I-ETMS PTCSPs, or I-ETMS itself, FRA expects a joint RFA from the set of host railroads whose I-ETMS is certified as a non-vital, overlay PTC system under § 236.1015(e)(1), and a joint RFA from the set of host railroads whose I-ETMS is certified as a mixed PTC system under § 236.1015(e)(4). Two distinct RFAs are necessary under these circumstances, as the impact of the proposed change(s) must be analyzed in the context of the underlying safety analysis in the FRA-approved PTCSPs—a safety analysis that is structured differently based on whether FRA has certified the PTC system as a non-vital, overlay system; a vital, overlay system; a standalone system; or a mixed system.

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FRA issues this final rule, whichever occurs first. For a copy of the waiver petition, or FRA's approval letter, please see public Docket No. FRA-2020-0068.

Furthermore, with respect to joint RFAs, new paragraph (l) specifies that, though most types of information required under new paragraph (m)(2) may be submitted jointly in the RFA, a joint RFA must include the written confirmation and statement specified under new paragraphs (m)(2)(iii) and (iv), as described below, from each host railroad that is a signatory to the joint RFA.

In this final rule, FRA outlines, in new paragraph (m), the mandatory, three-step process a host railroad must follow to make changes to its FRA-certified PTC system and the associated FRA-approved PTCSP. FRA intends the process under paragraph (m) to apply to *all* changes necessitating an RFA under existing paragraphs (h)(3) and (4) of this section—*i.e.*, proposed changes to safety-critical elements of PTC systems and proposed changes to a PTC system that affect the safety-critical functionality of any other PTC system with which it interoperates. For brevity, FRA will refer to these changes as changes to safety-critical elements of PTC systems, as that is sufficiently broad for purposes of paragraph (m).

New paragraph (m)(1) requires a host railroad to revise its PTCSP to account for each proposed change to its PTC system, and summarize such changes in a chronological table of revisions at the beginning of its PTCSP. FRA retains its authority to request a copy of a host railroad's governing PTCSP in accordance with 49 CFR 236.1009(h), *FRA access*, and 49 CFR 236.1037, *Records retention*. FRA did not receive any comments on new paragraph (m)(1), as proposed, and thus, FRA is adopting that paragraph without change.

The introductory text in new paragraph (m)(2) specifically requires a host railroad to file an RFA pursuant to paragraph (m) electronically, which could include electronic filing on FRA's Secure Information Repository (<https://sir.fra.dot.gov>), where railroads currently file other PTC-related documents, or any other location FRA designates. If a host railroad wishes to seek confidential treatment of any part of its RFA, the railroad

must comply with the existing process and requirements under 49 CFR 209.11, *Request for confidential treatment*. That process includes marking the document properly with the necessary labels and redactions, and providing a statement justifying nondisclosure and referring to the specific legal authority claimed. FRA will post a host railroad's RFA (the public, redacted version, if applicable) and FRA's final decision letter in the respective railroad's PTC docket on <http://www.regulations.gov>.<sup>31</sup> FRA did not receive any comments on the introductory text in new paragraph (m)(2), as proposed, and thus, FRA is adopting that introductory text without change.

In new paragraphs (m)(2)(i) through (v), FRA outlines the specific content requirements for an RFA to an FRA-certified PTC system and the associated PTCSP. The requirements focus on the core information and analysis FRA needs to review to ensure the PTC system, including any proposed changes, will provide an equivalent or greater level of safety than the existing PTC system. Importantly, new paragraph (m)(2)(i) requires the RFA to include a summary of the proposed changes to any safety-critical elements of a PTC system, including: (1) a summary of how the changes to the PTC system would affect its safety-critical functionality; (2) how any new hazards have been addressed and mitigated; (3) whether each change is a planned change that was previously included in all required analysis under § 236.1015, or an unplanned change; and (4) the reason for the proposed changes, including whether the changes are necessary to address or resolve an emergency or urgent issue.

Regarding paragraph (m)(2)(i), APTA recommends that FRA remove the last part of the summary section of the RFA—*i.e.*, “including whether the changes are necessary to address or resolve an emergency or urgent issue.” FRA does not agree that this clause should be removed, as that type of statement will provide valuable information to FRA.

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<sup>31</sup> Railroads' applicable PTC docket numbers are available on FRA's website at <https://railroads.dot.gov/train-control/ptc/ptc-annual-and-quarterly-reports>.

For example, such information will help FRA understand why a specific RFA should be prioritized and expedited under the circumstances.

Furthermore, for context, FRA's existing paragraphs (d)(7)(i) through (v) of § 236.1021 explain the distinction between an unplanned change and a planned change and impose certain additional requirements, including conducting suitable regression testing to FRA's satisfaction and filing a new PTCDP and PTCSP, under certain circumstances. As noted above, this final rule removes paragraph (d)(7) in its entirety and instead requires a host railroad to identify in its RFA under paragraph (m)(2)(i) only whether the change is a planned change or an unplanned change. That basic information will be valuable to include in the abbreviated RFA under paragraph (m) because several railroads have already accounted for long-term, planned changes to their PTC systems and proactively integrated those assumptions into the corresponding analyses in their PTCSPs.

As FRA noted in the NPRM, planned changes "are those that the system developer and the railroad have included in the safety analysis associated with the PTC system, but have not yet implemented." In its comments, APTA asks FRA to confirm that unplanned changes are, therefore, any changes not already documented in a railroad's PTCSP. FRA confirms that APTA's interpretation is correct. As FRA received only the two above comments on new paragraph (m)(2)(i), this final rule adopts that paragraph as proposed.

New paragraph (m)(2)(ii) requires the RFA to include a copy of any associated software release notes, which is critical for FRA to review and evaluate before one or more railroads deploy the upgraded software. A copy of the release notes is integral in conveying the actual changes to the PTC system, including any corrections, enhancements, or new features or functionality. FRA did not receive any comments on new paragraph (m)(2)(ii), as proposed, and thus, FRA is adopting that paragraph without

change.

New paragraph (m)(2)(iii) requires the RFA to contain a confirmation that the host railroad has notified any applicable tenant railroads of the proposed changes, any associated effect on the tenant railroads' operations, and any actions the tenant railroads must take in accordance with the configuration control measures set forth in the host railroad's PTCSP. FRA did not receive any comments on new paragraph (m)(2)(iii), as proposed, and thus, FRA is adopting that paragraph without change.

In the NPRM, FRA proposed that paragraph (m)(2)(iv) would require the RFA to include a statement from the host railroad's Chief Engineer and Chief Operating Officer (COO), or executive officers of similar qualifications, verifying that the PTC system, once modified, would meet all technical requirements under 49 CFR part 236, subpart I, provide an equivalent or greater level of safety than the existing PTC system, and not adversely impact interoperability with any tenant railroads.

In their joint comments regarding proposed paragraph (m)(2)(iv), AAR and ASLRRA recommend the following: "Instead of requiring hollow paperwork, the railroads instead propose that RFA submissions identify a designated and knowledgeable railroad contact who will be responsible for responding to FRA questions or requests for additional information, if any, and who will be able to do so quickly, completely, and authoritatively." AAR and ASLRRA's recommendation is based on several assertions, including that a verification statement from a railroad's Chief Engineer and COO was not required for railroad's initial PTCIP, PTCDP, or PTCSP, and it is unnecessary for RFAs, which are relatively less complex. In addition, AAR and ASLRRA assert that a railroad's Chief Engineer and COO are likely not PTC subject matter experts, and the highly technical changes described in an RFA would not be within their purview. Accordingly, a Chief Engineer and COO would be relying on the representations of their staff about the safety impact of the amendments proposed in the RFA, so the proposed



statement would not serve a useful purpose.

In response to AAR and ASLRRA's recommendation, FRA is modifying new paragraph (m)(2)(iv) in the final rule. As FRA proposed in the NPRM, this final rule will still require an RFA to include a statement from the respective host railroad that the modified PTC system (if the proposed changes were implemented) would meet all technical requirements under 49 CFR part 236, subpart I, provide an equivalent or greater level of safety than the existing PTC system, and not adversely impact interoperability with any tenant railroads. This is consistent with existing regulatory provisions that require PTC systems to achieve and maintain a level of safety, for each system modification, that is equal to or greater than the level of safety provided by the previous PTC system.<sup>32</sup> However, based on comments received, FRA is eliminating all references to a host railroad's Chief Engineer and COO (or executive officers of similar qualifications) and instead specifying that this statement must be from a qualified representative of the host railroad. FRA expects this representative to be a management-level person with technical oversight of the railroad's PTC division. To AAR and ASLRRA's point, that representative will be the first person whom FRA contacts with any questions. Also, to be clear, the host railroad's representative must be an employee of the railroad, not a contractor.

New paragraph (m)(2)(v) requires a host railroad to submit any other information that FRA requests on a case-by-case basis, during FRA's review of the RFA. This approach is generally consistent with the existing provision under 49 CFR 236.1015(f), which provides that in any case where a PTCSP, or an RFA in this scenario, "lacks adequate data regarding [the] safety impacts of the proposed changes, the Associate Administrator may request the necessary data from the applicant."

AAR and ASLRRA comment that this provision is unnecessary because existing

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<sup>32</sup> See, e.g., 49 CFR 236.1001(a), 236.1015(d)(11), 236.1015(e)(1)(iii), and 236.1015(g).

§ 236.1021(d) already specifies that FRA can request information necessary to evaluate an RFA in appropriate circumstances. However, AAR and ASLRRA's comment fails to recognize that going forward, under this final rule, existing § 236.1021(d) will apply only to RFAs to PTCIPs and PTCDPs, not RFAs to PTCSPs or PTC systems. FRA explains above that this final rule removes any references to RFAs to PTCSPs or PTC systems from existing paragraph (d), so existing paragraph (d) is no longer applicable to a host railroad's RFA to its PTCSP.<sup>33</sup> Under this final rule, new paragraphs (l) and (m) will govern in this context, as they establish the process, including content requirements, for RFAs associated with FRA-approved PTCSPs and FRA-certified PTC systems.

Also, AAR and ASLRRA comment that this provision (paragraph (m)(2)(v)) is overbroad and creates the possibility of an open-ended process unlikely to be completed within FRA's 45-day decision timeline. As FRA noted in the NPRM, if FRA were to require a host railroad, or a set of host railroads, to provide additional information in support of the RFA, FRA's request will identify a deadline by which to submit the information, and FRA intends to send any such request via e-mail to ensure an efficient process. If the reason for FRA's request is to have additional documentation on file for future reference, but that documentation will not be essential to FRA's decision regarding the pending RFA, the deadline FRA specifies might be after the 45-day decision timeline. In this case, the applicable host railroads will receive FRA's decision (by the 45<sup>th</sup> day) and submit the additional information FRA requested by a specific deadline thereafter.

Alternatively, if under the circumstances, FRA expects the additional information it requests will be integral to FRA's decision regarding the pending RFA, FRA will

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<sup>33</sup> AAR and ASLRRA's comments also assert that this type of catch-all provision renders FRA's burden estimates speculative. However, FRA's burden estimates are based on the full set of information that paragraph (m) requires RFAs to PTCSPs to contain, including any responses to FRA's possible requests for additional information on a case-by-case basis, as appropriate or necessary. As AAR and ASLRRA's comments acknowledge, this type of provision exists in current 49 CFR 236.1021(d), as well as other provisions not referenced, including 236.1015(f). FRA's requests for additional information in those contexts have been infrequent.

specify that the additional information must be submitted by, for example, the 20<sup>th</sup> day after the initial RFA filing. In this case, FRA will be required nonetheless to issue its decision within 45 days of the initial RFA filing, consistent with new paragraph (m)(3) below. FRA has considered AAR and ASLRRA's concerns about new paragraph (m)(2)(v), and FRA wants to clarify that this provision will not affect the 45-day deadline by which FRA must issue its decision, as new paragraph (m)(3) provides.

The clock begins when a host railroad, or a group of host railroads, properly files an RFA with all required information pursuant to new paragraphs (m)(2)(i) through (iv) (*i.e.*, all content requirements for an RFA, except (m)(2)(v) which refers to any case-by-case requests for additional information). To be clear, if an RFA fails to include *any* of the contents explicitly required for all RFAs to PTCSPs under new paragraphs (m)(2)(i) through (iv), the 45-day clock will not begin on that initial filing date. Instead, the 45-day clock will begin on the date the railroad or railroads properly submit any remaining information required under new paragraphs (m)(2)(i) through (iv). FRA expects this will incentivize a railroad to submit a complete RFA, with all contents required under paragraphs (m)(2)(i) through (iv), in its initial filing.

New paragraph (m)(3) outlines a definite, predictable timeline associated with FRA's review of an RFA to a host railroad's PTCSP or FRA-certified PTC system under paragraph (m). Specifically, paragraph (m)(3) prohibits a host railroad from making any changes, as defined under 49 CFR 236.1021(h)(3) or (4),<sup>34</sup> to its PTC system until the Director of FRA's Office of Railroad Systems and Technology approves the RFA. In this final rule, new paragraph (m)(3)(i) specifies that FRA will review an RFA and issue a decision—*i.e.*, an approval, conditional approval, or denial of the RFA—within 45 days of the date on which the complete RFA was filed under paragraph (m)(2). FRA's

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<sup>34</sup> That is, proposed changes to safety-critical elements of PTC systems or proposed changes to a PTC system that affect the safety-critical functionality of any other PTC system with which it interoperates.

decision will be in the form of a letter from the Director of FRA's Office of Railroad Systems and Technology. As noted above, FRA will post each final decision letter in the respective railroad's PTC docket on <http://www.regulations.gov>. FRA, however, may send interim correspondence—including any notices requiring a railroad to provide additional information under new paragraph (m)(2)(v)—via e-mail, which will help ensure that process is efficient.

FRA received multiple comments on new paragraph (m)(3)(i). In its comments, APTA recommends that FRA reduce the review-and-decision timeline from the proposed 45 days to, at most, 14 days. APTA's recommendation is based on its assertion that the industry has implemented at least four to five PTC onboard software releases, for I-ETMS alone, over the last two years, and a 45-day review-and-decision period will constrain the industry's ability to continue at its current pace. AAR and ASLRRA's comments express concern that FRA may not be able to issue a decision within 45 days, and they recommend adding a provision wherein FRA may issue a summary approval of an RFA, with a more detailed rationale in a subsequent written decision. Like APTA's comments, AAR and ASLRRA's comments underscore the importance of host railroads receiving a timely decision so that safety improvements are not unnecessarily delayed.

FRA appreciates these comments, but FRA declines to incorporate these specific recommendations into the final rule for the following reasons. Regarding AAR and ASLRRA's proposal, FRA expects that a provision allowing the agency to issue multiple decision letters, a brief decision letter and a complete decision letter (typically only two pages), could complicate the process and make it less efficient.

As the industry is aware, FRA's regulations do not currently specify a timeline for FRA to review and approve or deny railroads' RFAs to their PTCSPs. In practice, as of May 2021, it has taken FRA 178 days, on average, to review and approve recent RFAs to PTCSPs for FRA-certified PTC systems. One of FRA's main objectives in modifying

§ 236.1021 in this final rule is to establish a streamlined RFA process with a finite decision timeline to enable railroads to plan and schedule any material modifications, including upgrades, to their PTC systems. An FRA review-and-decision period of 45 days is significantly faster than FRA's current process, and this expedited timeline is based on FRA's interest in facilitating the industry's continual improvements to the reliability and operability of PTC technology. A period of 14 days, as APTA suggests, would not provide sufficient time for FRA to review and evaluate an RFA (including a joint RFA impacting several railroads) and issue a decision letter. Accordingly, FRA's final rule adopts new paragraph (m)(3)(i), as proposed in the NPRM, without change.

New paragraph (m)(3)(ii) explicitly acknowledges that FRA reserves the right to notify a railroad that it may proceed with making its proposed changes prior to the 45-day mark, including in an emergency or under any other circumstances necessitating a railroad's immediate implementation of the proposed changes to its PTC system. FRA did not receive any comments on new paragraph (m)(3)(ii), as proposed, and thus, FRA is adopting that paragraph without change.

New paragraph (m)(3)(iii) specifies that FRA may require a railroad to modify its RFA and/or its PTC system, but only to the extent necessary to ensure safety or compliance with the requirements under FRA's PTC regulations. FRA did not receive any comments on new paragraph (m)(3)(iii), as proposed, and thus, FRA is adopting that paragraph without change.

If FRA denies an RFA under paragraph (m), new paragraph (m)(3)(iv) specifies that each applicable railroad will be prohibited from making the proposed changes to its PTC system until the railroad both sufficiently addresses FRA's questions, comments, and concerns and obtains FRA's approval. Consistent with new paragraph (l) of this section, any host railroads utilizing the same type of PTC system, including the same certification classification under paragraph (e) of § 236.1015, may submit information

jointly to address FRA's questions, comments, and concerns following any denial of an RFA under this section. FRA did not receive any comments on new paragraph (m)(3)(iv), as proposed, and thus, FRA is adopting that paragraph without change.

FRA expects the improved process established in new § 236.1021(l) and (m) of this final rule will ensure FRA's review and decision timeline, regarding railroads' proposed changes to their FRA-approved PTCSPs and FRA-certified PTC systems, is predictable and consistent. FRA's improved process will also enable the industry to deploy upgrades and make technological advancements more efficiently.

*Section 236.1029 PTC System Use and Failures.*

Currently, paragraph (h) of this section requires railroads to report annually to FRA the number of PTC system failures that occurred during the previous calendar year. This final rule revises this existing paragraph to clarify and expand the reporting requirement and require host railroads to submit the information in a Biannual Report of PTC System Performance (Form FRA F 6180.152). FRA's Excel-based<sup>35</sup> Form FRA F 6180.152 was placed in the docket for this rulemaking (Docket No. FRA-2019-0075) for reference and review on December 18, 2020, when FRA published the NPRM.

FRA received two comments on FRA's proposal to increase the frequency of this reporting requirement from annual to biannual. First, an individual commented that FRA should increase the frequency of this important reporting requirement to quarterly, as that frequency will help FRA more effectively determine if the reliability of PTC systems is trending upward or downward. Second, in its comments, APTA recommends keeping § 236.1029(h) as an annual reporting requirement, noting that increasing the frequency to biannual may require each railroad to use additional resources to review and compile data on a more regular basis.

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<sup>35</sup> Excel is a registered trademark of Microsoft Corporation. All third-party trademarks belong to their respective owners.

FRA is adopting the biannual reporting frequency it proposed in the NPRM because that frequency balances FRA's need to oversee the reliability and performance of PTC systems actively throughout the year, with commuter railroads' stated preference for less frequent reporting. With respect to APTA's comment that increasing the reporting frequency from annual to biannual will require railroads to compile performance-related data more regularly, FRA accounts for that burden in its economic analysis in Section V (*Regulatory Impact and Notices*) of this final rule. However, FRA also understands that even under existing paragraph (h) (with an annual reporting deadline), host railroads regularly compile this data, not simply before the annual deadline, to evaluate their PTC systems' failure rates throughout the year.

New paragraph (h)(1) specifies this reporting requirement applies to each host railroad subject to 49 U.S.C. 20157 or 49 CFR part 236, subpart I, which also includes any new host railroads that become subject to the statutory mandate in the future and any host railroads that voluntarily implement a PTC system under subpart I.<sup>36</sup> For clarification and simplicity, FRA is removing the phrase "following the date of required PTC system implementation established by section 20157 of title 49 of the United States Code" from existing paragraph (h) because that phrase is unnecessary now that the final statutory deadline of December 31, 2020, has passed.

In addition, new paragraph (h)(1) requires a host railroad to file its Biannual Report of PTC System Performance (Form FRA F 6180.152) electronically, which includes electronic filing on FRA's Secure Information Repository (<https://sir.fra.dot.gov>), where railroads file other PTC-related documents, or another designated location. To the extent a railroad seeks confidential treatment of any part of its Biannual Report of PTC System Performance (Form FRA F 6180.152), the railroad

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<sup>36</sup> See, e.g., 49 CFR 236.1011(d) (stating that a "railroad that elects to install a PTC system when not required to do so may elect to proceed under this subpart [subpart I] or under subpart H of this part," including the associated filing and reporting requirements).

must comply with the existing process and requirements under 49 CFR 209.11, including proper labeling and redacting and providing a statement justifying nondisclosure and referring to the specific legal authority claimed. FRA's new Form FRA F 6180.152 contains fields for a host railroad to identify its request for partial or full confidentiality and provide the required statement under § 209.11(c), if applicable.

Also, under this final rule, paragraph (h)(1) requires a host railroad to include in its Biannual Report of PTC System Performance (Form FRA F 6180.152) the metrics itemized under paragraphs (h)(1)(i) through (vii) for the host railroad, each of its applicable tenant railroads (as explained in new paragraph (h)(4)), and each of its PTC-governed track segments. In this paragraph, FRA acknowledges that a host railroad's PTCIP may identify or designate its specific track segments as territories, subdivisions, districts, main lines, branches, or corridors, based on a railroad's own naming conventions. FRA expects that requiring this relatively high-level geographical information (*i.e.*, by track segment, not by milepost location) will still enable FRA to monitor trends in PTC system reliability throughout the country and focus its resources, for example, on any areas where PTC system failures are occurring at a high rate.

Relatedly, FRA received one comment from an individual inquiring what FRA plans to do with the information railroads submit in their new biannual reports. The commenter states that, from his perspective, there is very little point in requiring railroads to submit such reports without FRA making a coincident commitment to producing high-level summaries of the reports, analyses of trends, and recommendations based on that analysis. He further notes that compelling those interested in these reports to seek information through Freedom of Information Act (FOIA) petitions defeats the entire purpose of a public agency requiring such reporting, in his view.

In response to the general inquiry in this individual's comment, FRA intends to use host railroads' Biannual Reports of PTC System Performance to evaluate, for



example, the rate at which PTC systems are experiencing failures, including initialization failures, cut outs, and malfunctions, and trends in system reliability over time. In addition, these reports will help FRA prioritize its resources, including helping inform decisions about which railroads may benefit from additional technical assistance from FRA's PTC specialists. As a part of FRA's ongoing PTC oversight, the agency will evaluate the best way to continue its transparent reporting on PTC progress and challenges.

Consistent with existing paragraph (h), new paragraphs (h)(1)(i) through (iii) require a host railroad's biannual report to include the number of PTC-related failures that occurred during the applicable reporting period, in addition to a numerical breakdown of the "failures by category, including but not limited to locomotive, wayside, communications, and back office system failures."<sup>37</sup> In new paragraphs (h)(1)(i) through (iii), however, FRA acknowledges that the source or cause of a PTC system failure might not necessarily involve, in every instance, the PTC system itself, so this final rule includes an additional category for railroads to select in the applicable drop-down menu in Form FRA F 6180.152—*i.e.*, "a non-PTC component."

Another difference between the existing paragraph (h) and FRA's new paragraphs (h)(1)(i) through (iii) is that the final rule utilizes the statutory terminology under 49 U.S.C. 20157(j)(4) as referenced above—initialization failures, cut outs, and malfunctions—which are now defined under paragraph (b) of § 236.1003. FRA is aware that railroads track their PTC system failures in this manner (by type of failure), given the existing temporary reporting requirement under 49 U.S.C. 20157(j)(4) and FRA's associated mandatory form, the Statutory Notification of PTC System Failures (Form FRA F 6180.177, OMB Control No. 2130-0553). FRA did not receive any comments on new paragraphs (h)(1)(i) through (iii), as proposed, and this final rule adopts these

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<sup>37</sup> Quoting existing 49 CFR 236.1029(h).

proposed paragraphs from the NPRM, without change.

In the NPRM, FRA also proposed to expand the existing reporting requirement under paragraph (h) to encompass certain positive, performance-related information, as otherwise the information FRA receives would be about PTC system failures only. Specifically, FRA proposed that new paragraph (h)(1)(iv) would require a host railroad to identify the number of intended enforcements by the PTC system and any other instances in which the PTC system prevented an accident or incident on the host railroad's PTC-governed main lines, during the applicable reporting period.

FRA received extensive comments on this proposal, including from AAR, ASLRRA, APTA, Amtrak, and NJT. FRA addresses the general comments about paragraph (h)(1)(iv) immediately below. FRA responds to the related ACSES II-specific comments later in this section when discussing new paragraph (h)(5).

AAR, ASLRRA, and APTA each comment that the proposed metric, "intended enforcements," is a subjective and unreliable data point. They note that enforcements by a PTC system, whether intended or not, indicate the system is working. Both APTA and Amtrak recommend removing this metric from the final rule in its entirety. FRA declines APTA's and Amtrak's recommendation to eliminate this metric because if FRA were to do so, host railroads' Biannual Reports of PTC System Performance (Form FRA F 6180.152) would not include any positive data about their PTC systems' performance.

AAR and ASLRRA, on the other hand, recommend that FRA refine the metric to be more objective by removing the adjective "intended" and retaining the term "enforcements." AAR and ASLRRA explain that this metric is far less subjective and will result in a more easily normalized metric to compare to railroads' other data. They further observe that this metric—*i.e.*, enforcements in general—would avoid cost and resource burdens, which railroads would bear if they needed to analyze individual enforcements to determine whether to classify them as intended. FRA concurs with AAR

and ASLRRA's analysis and, in this final rule, under new paragraph (h)(1)(iv), FRA adopts AAR and ASLRRA's joint recommendation to require host railroads to identify the total number of *all* enforcements by the PTC system during the applicable reporting period, whether the enforcements were intended or not.

FRA interprets the term "enforcement" in new paragraph (h)(1)(iv) consistently with how the term "enforce" is applied in FRA's existing PTC regulations, which include references to, among other things, how a PTC system shall enforce speeds, movement authorities, and signal indications. *See, e.g.*, 49 CFR 236.1005, 236.1013, 236.1015, and 236.1047(a)(3). FRA expects that new paragraph (h)(1)(iv)—focusing on enforcements by a PTC system in general—will provide valuable performance-related data, while avoiding the issues APTA, AAR, and ASLRRA raise regarding the NPRM's more subjective, resource-intensive proposal to report only intended enforcements.

Furthermore, based on comments from AAR, ASLRRA, and APTA, FRA recognizes that its initial proposal for paragraph (h)(1)(iv) also created confusion. In the NPRM, FRA proposed that paragraph (h)(1)(iv) would require a host railroad to identify the number of intended enforcements by the PTC system *and* any other instances in which the PTC system prevented an accident or incident on the host railroad's PTC-governed main lines, during the applicable reporting period. Several comments demonstrate that some people interpreted that proposed content requirement as referring to one connected data point, but it was proposing two separate data points, distinguished by the word "and."

Specifically, under proposed paragraph (h)(1)(iv), the NPRM proposed to require railroads to identify: (1) the number of intended enforcements by the PTC system (discussed above); and (2) any other instances in which the PTC system prevented an accident or incident on a host railroad's PTC-governed main lines. Highlighting the confusion about these two separate elements, several comments from AAR, ASLRRA,

and APTA assert that it is often impossible to determine if an intended PTC enforcement definitively prevented an accident or not.<sup>38</sup>

FRA maintains that the second metric referenced in paragraph (h)(1)(iv) of the NPRM—*i.e.*, the number of instances in which the PTC system prevented an accident or incident—is necessary to enable FRA to evaluate and quantify PTC technology’s positive impact on rail safety. This second metric is a subset of the first metric (the total number of enforcements by the PTC system). FRA understands that a PTC system taking enforcement action does not necessarily mean that, in every case, an accident or incident was prevented, for several reasons. First, there may be cases when a PTC system unnecessarily initiates a brake application (an unintended enforcement), meaning the system, for some reason, took enforcement action when it was not warranted. Second, there may be cases when a PTC system properly takes enforcement action, but an accident or incident would not have occurred even if the PTC system did not take enforcement action. For example, a PTC system might take enforcement action properly to prevent a train from passing a red signal, but in this hypothetical, there was no chance of a train-to-train collision under the specific circumstances because the main line’s train schedule was such that only one train operates in that area each day. Although the PTC system properly took enforcement action, that specific enforcement by the PTC system did not actually prevent an accident or incident, as an accident or incident would not have necessarily occurred otherwise.

For clarity about these two data points, this final rule recategorizes this second metric (the subset of enforcements that prevented an accident or incident) as a separate content requirement, under new paragraph (h)(1)(v). Specifically, new paragraph (h)(1)(v) requires a railroad to identify the number of enforcements by the PTC system in

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<sup>38</sup> In the preceding paragraphs, FRA explains why this final rule eliminates the word “intended” from new paragraph (h)(1)(iv), based on AAR and ASLRRA’s joint comments and APTA’s comments.

which an accident or incident was prevented, as discussed further below. Such a data point will help demonstrate the extent to which PTC systems are performing as designed and improving safety, by highlighting concrete instances in which enforcement by the PTC system actually prevented a train-to-train collision, over-speed derailment, incursion into an established work zone, or movement of a train through a switch left in the wrong position.

In their comments, AAR, ASLRRA, and APTA raise concerns that this metric relies on speculation and subjective assessments. For example, in their comments, they assert that a PTC system might have prevented only a close call,<sup>39</sup> or in the absence of a PTC system, a train crew might have taken subsequent action that would have prevented the accident. In response to these comments, FRA wishes to clarify the purpose and scope of new paragraph (h)(1)(v). This metric focuses on only specific, undisputed instances in which a PTC system actually prevented an accident or incident, as defined under 49 CFR 225.5. In other words, host railroads should report, under paragraph (h)(1)(v), only the subset of PTC system enforcements where an accident or incident would have occurred under the exact circumstances, but for the intervention of the PTC system. For example, host railroads should count the following types of scenarios: a PTC system prevented a train from traveling into a siding and colliding with a train occupying the siding, or a PTC system prevented a train from moving past a red signal, where another train was occupying the track. These are only two examples of instances where a foreseeable accident or incident would have occurred, but for the PTC system's

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<sup>39</sup> FRA expects that APTA, AAR, and ASLRRA's use of the phrase "only close calls" refers to close calls in general, where an accident or incident did not occur but might have under different circumstances. The industry might also be referring to the types of close calls that can be reported under the Confidential Close Call Reporting System (C<sup>3</sup>RS). Under C<sup>3</sup>RS, a close call is "any condition or event that may have the potential for more serious safety consequences. Some examples of close calls could be, but not limited to, a train missing a temporary speed restriction, a train striking a derail without derailing, a blue flag not removed after releasing equipment, or proper track protection not provided during track maintenance." THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, C<sup>3</sup>RS Frequently Asked Questions (2015), available at [https://c3rs.arc.nasa.gov/docs/C3RS\\_FAQ.pdf](https://c3rs.arc.nasa.gov/docs/C3RS_FAQ.pdf). Based on this definition and the general meaning of the term, FRA expects that close calls encompass a broader universe of scenarios than the fact-specific scenarios under new paragraph § 236.1029(h)(1)(v).

intervention. These examples are not intended to be exhaustive, but rather to convey that paragraph (h)(1)(v) is focused on undisputed scenarios where an accident or incident would have otherwise occurred under the exact circumstances, as opposed to scenarios where there was only a chance of an accident or incident occurring if the facts or circumstances were changed or exacerbated.

The types of statistics this final rule requires railroads to provide, under new paragraphs (h)(1)(iv) and (v), will help demonstrate the extent to which PTC systems are meeting their desired objectives.

In new paragraphs (h)(1)(vi) and (vii), FRA requires a host railroad's Biannual Report of PTC System Performance (Form FRA F 6180.152) to include certain contextual data to help FRA understand how the occurrences of PTC system initialization failures, cut outs, and malfunctions compare to all operations on that host railroad's PTC-governed main lines.<sup>40</sup> Paragraphs (h)(1)(vi) and (vii) generally encompass the same types of denominators currently set forth in the Statutory Notification of PTC System Failures (Form FRA F 6180.177) with one notable difference. Unlike Form FRA F 6180.177, this final rule requires the same two data points, under new paragraphs (h)(1)(vi) and (vii), from a host railroad and its applicable tenant railroads. In practice, FRA has found that host railroads providing certain denominators for tenant railroads and other denominators for the host railroad itself makes it difficult for FRA to evaluate the rate at which failures are occurring system-wide. FRA expects that requiring uniform figures will help the agency derive more accurate, objective, and comparable statistics. Furthermore, FRA understands that host railroads collect the type of data under paragraphs (h)(1)(vi) and (vii) for their own operations and their tenant railroads'

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<sup>40</sup> FRA's Biannual Report of PTC System Performance (Form FRA F 6180.152) includes fields for host railroads to provide the raw denominators set forth under paragraphs (h)(1)(vi) through (vii), and FRA will calculate the rate of failures, utilizing those raw denominators. FRA has found that providing fields for railroads to enter such raw denominators, instead of percentages or rates, helps FRA accurately interpret railroads' data, especially when comparing multiple railroads' data or a single railroad's data to its own prior reports.

operations because several host railroads have provided those additional data points in their Statutory Notifications of PTC System Failures (Form FRA F 6180.177) to date.

Specifically, new paragraph (h)(1)(vi) requires a host railroad's Biannual Report of PTC System Performance (Form FRA F 6180.152) to include the number of scheduled attempts at initialization of the PTC system during the applicable reporting period, which will help FRA calculate the actual rate of that railroad's PTC system initialization failures.<sup>41</sup> FRA did not receive any comments on this paragraph, and this final rule adopts this paragraph, as proposed in the NPRM, without change.

In the NPRM, under formerly proposed paragraph (h)(1)(vi), FRA also proposed to require a host railroad to identify the number of trains governed by the PTC system during the applicable reporting period, in its biannual report. FRA is eliminating this proposed content requirement in this final rule based on comments from AAR and ASLRRA explaining that this proposal would not result in objective data. AAR and ASLRRA note that different railroads use different metrics to identify and define "trains" (*e.g.*, crew starts, brake tests, the addition or subtraction of portions of a train, interchanges between railroads with re-crews, etc.). Their comments further explain that the number of trains involved in a geographic movement may vary considerably by railroad, creating the potential for inconsistency and data that cannot be compared reliably. FRA concurs with these comments and, therefore, FRA's final rule does not adopt that proposed content requirement from the NPRM.<sup>42</sup>

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<sup>41</sup> As a note, in the NPRM, FRA categorized this content requirement under proposed paragraph (h)(1)(v). In this final rule, FRA categorizes this content requirement (the number of scheduled attempts at initialization of the PTC system) as new paragraph (h)(1)(vi), as (h)(1)(v) sets forth the content requirement about the number of specific instances in which a PTC system prevented an accident or incident.

<sup>42</sup> For clarity, FRA notes that the citation of this proposed paragraph in the NPRM was (h)(1)(vi). New paragraph (h)(1)(vi) in this final rule concerns the number of scheduled attempts at initialization of the PTC system, which was proposed paragraph (h)(1)(v) in the NPRM. Given FRA's decision to separate the two elements of proposed paragraph (h)(1)(iv) in the NPRM (into (h)(1)(iv) and (v) in the final rule), paragraph (h)(1) in the final rule includes the same number of paragraphs (*i.e.*, (i) to (vii)) as the NPRM, even though this final rule does not adopt one of the proposed content requirements from the NPRM, based on AAR and ASLRRA's comments.

New paragraph (h)(1)(vii), as proposed in the NPRM, requires a host railroad to provide the number of train miles governed by the PTC system during the applicable reporting period, in its biannual report. In their comments, AAR and ASLRRA express support for this metric, noting that it is not subject to variation across railroads, and there is little potential for inconsistency. From AAR and ASLRRA's perspective, the metric of PTC train miles provides the clearest and most easily understood method for statistical normalization when calculating PTC system reliability. As this is the only comment FRA received regarding paragraph (h)(1)(vii) and FRA concurs with AAR and ASLRRA's analysis, FRA's final rule adopts that new paragraph as proposed in the NPRM.

Finally, with respect to paragraph (h)(1) in general, an individual commented that FRA should require railroads to submit the following additional data in their Biannual Reports of PTC System Performance (Form FRA F 6180.152): "Any reports from hardware or software suppliers or vendors under § 263.1023(b) about software failures or reported vulnerabilities." FRA declines to adopt this recommendation in the final rule because FRA already receives such reports on an ongoing basis. For example, pursuant to § 236.1023(h), PTC system suppliers and vendors must notify FRA directly of any safety-relevant failure, defective condition, or previously unidentified hazard discovered by the supplier or vendor and the identity of each affected and notified railroad. Furthermore, pursuant to the instructions under § 236.1023(f), suppliers, vendors, and railroads must submit such reports to FRA within 15 days of discovering the reportable issue. Therefore, FRA does not consider it necessary for host railroads to identify such reports in their Biannual Reports of PTC System Performance (Form FRA F 6180.152), as FRA already receives those reports within 15 days, depending on the circumstances, directly from suppliers, vendors, and railroads, as § 236.1023 requires.

In the NPRM, FRA proposed that new paragraph (h)(2) would require a host railroad's Biannual Report of PTC System Performance (Form FRA F 6180.152) to



include a summary of any actions the host railroad and its tenant railroads are taking to improve the performance and reliability of the PTC system continually. In their comments, AAR and ASLRRA state that information regarding PTC system improvements is not related to biannual failure statistics, and any such summary should be optional. Based on AAR and ASLRRA's comment, FRA is rewording the content requirement under new paragraph (h)(2) to clarify the scope and purpose of this type of summary and its relation to the biannual failure statistics. Specifically, new paragraph (h)(2) will require a host railroad's biannual report to include a summary of any actions the host railroad and its tenant railroads are taking to reduce the frequency and rate of initialization failures, cut outs, and malfunctions, such as any actions to correct or eliminate systemic issues and specific problems.

In other words, this narrative section will provide railroads an opportunity to explain briefly the steps they are taking to reduce the occurrence of PTC system failures, which could help put the biannual statistics into perspective. FRA did not propose including this content requirement under paragraph (h)(1) because that paragraph is track segment-specific, and FRA acknowledges that railroads generally take a system-wide approach to improving the reliability and performance of their PTC systems. Accordingly, consistent with the NPRM, this final rule categorizes this content requirement in the separate paragraph (h)(2), and FRA's Excel-based Form FRA F 6180.152 contains a field for railroads to enter this summary.

In the NPRM, FRA outlined, under proposed paragraph (h)(3), the dates by which host railroads must submit their Biannual Reports of PTC System Performance (Form FRA F 6180.152) to FRA—*i.e.*, by July 31 (covering the period from January 1 to June 30), and by January 31 (covering the period from July 1 to December 31 of the prior calendar year). In its comments, APTA notes that it is reasonable for FRA to require submission of this data sooner than the current deadline. As a reminder, the current

annual filing deadline under existing paragraph (h) is April 16<sup>th</sup>. Under the existing framework, FRA must wait until April 16<sup>th</sup> each year to receive railroads' failure-related data from the prior calendar year—data which is quite outdated by the time it is filed.

Though APTA agrees that requiring earlier submission of the data is reasonable, APTA asserts that filing the data about 30 days after the reporting period ends might be insufficient to process and compile the data. APTA recommends that the reporting deadline should be “within 45 days of the reporting period.” However, FRA expects that providing railroads one full month (from the end of the half-year period) to complete Form FRA 6180.152 will be sufficient and reasonable, given railroads' experience, since 2016, in submitting their Quarterly PTC Progress Reports (Form FRA F 6180.165) one month after the end of the quarter. Furthermore, under the *temporary* Statutory Notification of PTC System Failures (Form FRA F 6180.177) pursuant to 49 U.S.C. 20157(j)(4), the due date for each monthly notification is currently the 15<sup>th</sup> of the following month—so, for example, the notification regarding initialization failures, cut outs, and malfunctions during December 2020 was due by January 15, 2021. At least in part due to this temporary reporting requirement, which expires December 31, 2021, FRA expects that by the time this final rule becomes effective, host railroads will be experienced in regularly tracking the performance of their PTC systems. In fact, they are currently required to submit the data more quickly, within 15 days of the end of each month.

Accordingly, FRA expects that allowing one full month for railroads to prepare and submit their Biannual Reports of PTC System Performance (Form FRA F 6180.152) under new paragraph (h)(3) is a reasonable timeframe for this permanent reporting requirement. FRA did not receive any other comments about new paragraph (h)(3) and the reporting deadline therein, and this final rule adopts the proposal in the NPRM without change.

In the NPRM, FRA proposed that new paragraph (h)(4) would explicitly require any applicable tenant railroads that operate on a host railroad's PTC-governed main line(s) to provide the necessary data to their applicable host railroads by a specific date before the biannual filing deadlines—*i.e.*, by July 15 (for the biannual report covering the period from January 1 to June 30) and by January 15 (for the biannual report covering the period from July 1 to December 31 of the prior calendar year).

In their comments, AAR and ASLRRA explain that railroads have already established an efficient process to collect tenant railroads' data, and FRA should leave it to the host and tenant railroads to determine the most effective way to coordinate regarding tenant railroads' PTC-related failures. AAR and ASLRRA also remark that the deadlines specified in proposed paragraph (h)(4) of the NPRM may not allow adequate time for a host railroad to investigate a tenant railroad's failures and capture them in the host railroad's Biannual Report of PTC System Performance (Form FRA F 6180.152). They further note that, in practice, communications between host and tenant railroads may need to occur much earlier and on a continuous basis throughout a reporting period. Accordingly, AAR and ASLRRA recommend that FRA delete this proposal in the final rule, arguing it is unnecessary.

As background, FRA's proposed paragraph (h)(4) regarding tenant railroad responsibilities was based, in part, on comments AAR and APTA previously submitted during the comment period associated with the Statutory Notification of PTC System Failures (Form FRA F 6180.177). Specifically, on February 28, 2020, AAR commented, "[i]f FRA is going to require hosts to report tenant data, the agency must impose a clear and direct requirement on tenants to report the desired information to their host railroad."<sup>43</sup> In APTA's comments, also dated February 28, 2020, APTA observed that a host railroad would need to obtain "all necessary logs to complete the analyses" from its

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<sup>43</sup> Docket Nos. FRA-2019-0004-N-20 and FRA-2020-0004-N-3; 85 FR 15022, 15027 (Mar. 16, 2020).

tenant railroads to complete Form FRA F 6180.177 accurately.<sup>44</sup>

However, based on AAR and ASLRRA's subsequent comments, dated February 16, 2021, on the NPRM, FRA can appreciate that specifying an exact deadline by which a tenant railroad must submit the pertinent data to its applicable host railroads could have the unintended consequence of constraining otherwise effective coordination between host and tenant railroads. For example, as AAR and ASLRRA recognize, certain host railroads might prefer to receive that data by an earlier date or on a continuous basis. Therefore, in this final rule, FRA is removing all references in new paragraph (h)(4) to specific dates by which tenant railroads must provide the data to their applicable host railroads.

Instead, new paragraph (h)(4) establishes a general requirement for each applicable tenant railroad that operates on a host railroad's PTC-governed main line(s) to provide the information required under paragraphs (h)(1) and (2) to each applicable host railroad, without imposing a date-specific deadline. Consistent with the NPRM, the text in paragraph (h)(4) clarifies that a host railroad does not need to include data in Form FRA F 6180.152 regarding a tenant railroad that is subject to an exception under 49 CFR 236.1006(b)(4) or (5) during the applicable reporting period because such a tenant railroad's movements would not be governed by PTC technology in that case, and there would not be any pertinent, performance-related data to submit regarding that tenant railroad.

In addition, new paragraph (h)(4) requires the applicable tenant railroads to provide the necessary data to each applicable host railroad on a continuous basis. FRA based this clause on AAR and ASLRRA's recommendation that FRA defer to host and tenant railroads to coordinate and determine effective timelines for the exchange of this information. FRA also recognizes that this provision must refer, at least minimally, to a

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<sup>44</sup> *Id.*

timeframe. Otherwise, it would be difficult or impossible for FRA to take enforcement action against a tenant railroad, if necessary, for failing to submit the necessary data to its host railroad to facilitate the host railroad's timely submission of its Biannual Report of PTC System Performance (Form FRA F 6180.152). The language in new paragraph (h)(4) of this final rule requires tenant railroads to provide certain data to their host railroads, without unnecessarily interfering with host and tenant railroads' existing processes for coordination and data-sharing.

Finally, new paragraph (h)(5) provides temporary regulatory relief to railroads utilizing ACSES II or ASES II (referred to hereinafter as ACSES II). This new provision is in response to extensive comments from AAR, ASLRRA, APTA, Amtrak, and NJT regarding new paragraph (h)(1)(iv) of this final rule. In their respective comments, AAR, ASLRRA, APTA, Amtrak, and NJT express concern that one metric (the number of enforcements by the PTC system) could impose a significant burden on railroads operating ACSES II because almost all ACSES II railroads need to obtain that data manually, based on that system's current capabilities or configuration. For example, Amtrak's comments summarize the issue in the following manner: "The ACSES system does not currently have the technical capability to automatically take enforcement data which is stored in a locomotive's on-board computer, and to transmit that data . . . to a centralized collection and analysis location."

Amtrak's and APTA's comments each assert that this specific content requirement would create a tremendous strain on the resources of host railroads that operate ACSES II. Similarly, NJT notes that this requirement is especially onerous for railroads that utilize this type of PTC technology. Both Amtrak's comments and AAR and ASLRRA's comments describe the following burden estimate: an employee would manually perform a locomotive download by connecting a laptop to that engine (an approximately 20-minute process for each locomotive in the fleet), and then it would take

approximately 30 minutes to process and analyze the data from each locomotive.

Amtrak, AAR, and ASLRRA assert that this process would occur every 48 hours, but they do not specify why. FRA expects that their estimated frequency of performing downloads might be due to ACSES II's current onboard memory or storage limitations.

In their respective comments, APTA and Amtrak recommend removing the content requirement under paragraph (h)(1)(iv) from the final rule. On the other hand, AAR and ASLRRA<sup>45</sup> recommend that FRA amend the proposal after consulting with ACSES II railroads regarding a more feasible manner for those railroads to compile the enforcement-related metric. From comments received and FRA's experience overseeing PTC technology, FRA understands that this concern about paragraph (h)(1)(iv) (*i.e.*, the number of enforcements by the PTC system) and the manual process to collect such data is specific only to some railroads utilizing ACSES II, and it does not implicate other types of PTC systems.

Furthermore, FRA recognizes that the comments from Amtrak, AAR, and ASLRRA emphasize that "nearly all" or "most" ACSES II host railroads currently obtain such data manually. There are currently seven host railroads that utilize ACSES II. Based on host railroads' PTCSPs and other discussions, FRA is aware that at least one ACSES II host railroad currently utilizes an automated tool that remotely collects and analyzes data from the PTC system, including enforcements by the PTC system (the metric under paragraph (h)(1)(iv)) and the performance of various wayside equipment. This is important to underscore because it suggests to FRA that the other six ACSES II host railroads could likewise, over time, explore options or tools for obtaining their enforcement-related data remotely (*i.e.*, without manually performing a locomotive download while connected to each locomotive).

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<sup>45</sup> In addition, NJT comments that it strongly supports AAR and ASLRRA's joint comments, in their entirety.

In addition to the tool one ACSES II host railroad is currently utilizing, FRA is aware that other automated options are available to collect the type of data under paragraph (h)(1)(iv). For example, FRA knows of at least one PTC system supplier with a software solution or tool that, among other capabilities, automatically generates reports regarding PTC technology's performance and functioning, including enforcements by the PTC system.

FRA declines to eliminate paragraph (h)(1)(iv) from the final rule, as the number of enforcements by a PTC system is an integral metric about PTC technology's performance.<sup>46</sup> Notably, no other alternatives were suggested by any commenter. Nonetheless, FRA's final rule recognizes that currently, six of the 35 applicable host railroads would likely need to collect this metric manually in the near term. To avoid imposing a significant burden on those railroads, this final rule, under new paragraph (h)(5), provides temporary relief from the content requirement under paragraph (h)(1)(iv) to any railroad operating a PTC system classified under FRA Type Approval Nos. FRA-TA-2010-001 (ACSES II) or FRA-TA-2013-003 (ASES II).<sup>47</sup> Specifically, those railroads must begin submitting the specific metric required under paragraph (h)(1)(iv) not later than January 31, 2023. ACSES II and ASES II host railroads may certainly begin submitting that metric in their Biannual Reports of PTC System Performance (Form FRA F 6180.152) before January 31, 2023, but this provision offers flexibility to those railroads in the short term, based on comments received.

To be clear, this relief applies to the single content requirement under paragraph (h)(1)(iv) only, and these railroads must provide all other data required under paragraph

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<sup>46</sup> Furthermore, FRA expects that the number of enforcements by a PTC system during a reporting period is important information from a railroad's perspective, for other purposes as well. For example, that data could inform a railroad about the specific events when its PTC system needed to initiate braking events, and help the railroad identify general train handling issues and opportunities for increased training.

<sup>47</sup> FRA understands that certain host railroads' ACSES II systems are also classified under additional FRA Type Approvals, due to certain FRA-approved system variances. However, for this purpose, FRA is referring to the primary, underlying ACSES II and ASES II FRA Type Approvals, which all applicable ACSES II host railroads utilize, at least in part.

(h) in their Biannual Reports of PTC System Performance (Form FRA F 6180.152), once this final rule is effective. Between publication of this final rule and January 31, 2023, FRA will consult with the six applicable ACSES II railroads to help identify more feasible data collection approaches, consistent with the recommendation from AAR, ASLRRA, and NJT. In general, FRA expects paragraph (h)(5) will provide the six applicable ACSES II host railroads sufficient time either to refine and expedite their manual processes or to adopt a more automated process, with respect to paragraph (h)(1)(iv).

On a separate topic and as noted above, existing § 236.1029(h) currently requires railroads, by April 16<sup>th</sup> each year, to submit an annual report of the number of PTC system failures that occurred during the previous calendar year. In their comments, APTA, AAR, and ASLRRA request that FRA exercise discretion with respect to the annual report due April 16, 2021, pursuant to existing paragraph (h). Specifically, APTA suggests that railroads should submit the required data from a limited period (from June 2020 to December 2020), instead of calendar year 2020, as existing paragraph (h) requires. AAR and ASLRRA request that FRA accept a compilation of data from April 1, 2020, to March 31, 2021, to satisfy the annual reporting requirement due April 16, 2021. FRA appreciates these comments, but declines these recommendations. FRA is not providing retroactive regulatory relief via this rulemaking. Existing § 236.1029(h) currently governs, and FRA's changes to paragraph (h) will be effective after this final rule is published.

In addition, AAR and ASLRRA recommend that once this final rule is effective, the new Biannual Report of PTC System Performance (Form FRA F 6180.152) under revised paragraph (h) should replace the temporary reporting requirement FRA adopted in 2020. FRA declines this recommendation, as it is not legally permissible. AAR and ASLRRA are referring to the Statutory Notification of PTC System Failures (Form FRA



F 6180.177, OMB Control No. 2130-0553), which implements the statutory reporting requirement under 49 U.S.C. 20157(j)(4). That separate reporting requirement remains in place, by statute, until December 31, 2021.<sup>48</sup>

## **V. Regulatory Impact and Notices**

### *A. Executive Order 12866 (Regulatory Planning and Review)*

This final rule is a nonsignificant regulatory action under Executive Order 12866, “Regulatory Planning and Review.”<sup>49</sup> FRA made this determination by finding that the economic effects of this regulatory action will not exceed the \$100 million annual threshold defined by Executive Order 12866.

This final rule will reduce the burden on railroads while improving railroad safety. Specifically, in addition to the benefits quantified in the Industry Business Benefits section below, FRA expects this final rule will result in safety benefits for the railroad industry. For example, the expedited RFA process in this final rule will accelerate railroads’ ability to update their FRA-certified PTC systems to ensure safe operations (*e.g.*, through ongoing, necessary maintenance) and enhance the technology (*e.g.*, by adding new functionality or improving a PTC system’s reliability and operability). In short, this final rule will enable railroads to deploy safety improvements and technological advancements more efficiently and frequently. In addition, the expanded reporting requirement will help railroads and FRA identify systemic failures more quickly and precisely, enabling swifter intervention and resolution.

To enable FRA to oversee the performance and reliability of railroads’ PTC systems effectively, FRA is revising the reporting requirement under 49 CFR 236.1029(h). FRA’s changes include, but are not limited to, increasing the reporting frequency from annual to biannual, clarifying the types of statistics and

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<sup>48</sup> 49 U.S.C. 20157(j). For additional information about this temporary statutory reporting requirement, please see Section III-B (*Expanding the Performance-related Reporting Requirements*) in this final rule.

<sup>49</sup> 58 FR 51735 (Sep. 30, 1993).

information the reports must include, and expanding the reporting requirement to encompass positive performance-related information. Accordingly, FRA estimates that the number of hours it will take a host railroad to report the required information under § 236.1029(h) will increase under this final rule. To provide clarity and precision regarding the reporting requirement under § 236.1029(h), FRA developed an Excel-based Biannual Report of PTC System Performance (Form FRA F 6180.152) that railroads must utilize to satisfy this reporting requirement.

While FRA is expanding this existing reporting requirement, FRA's final rule reduces the regulatory and administrative burden on host railroads under § 236.1021. Specifically, FRA is establishing a streamlined process to enable the railroad industry to make technological advancements to FRA-certified PTC systems more efficiently. Instead of the existing RFA approval process under § 236.1021 for FRA-approved PTCSPs and FRA-certified PTC systems, FRA's final rule: (1) requires host railroads to comply with a streamlined process, including a concise RFA; and (2) establishes a 45-day FRA decision deadline. This more efficient process will result in business benefits for host railroads and savings for the government. For example, FRA's simplification of the content requirements associated with an RFA to a PTCSP under § 236.1021 will reduce the number of burden hours per RFA. In addition, FRA is permitting host railroads that utilize the same type of PTC system to submit joint RFAs to their PTCDPs and PTCSPs, thus reducing the number of RFAs railroads must submit in the future.

Currently, 35 host railroads must submit RFAs before making certain changes to their PTCSPs and PTC systems under § 236.1021, with many host railroads projected to submit one or two RFAs per year. Over the next ten years, FRA expects there will be an average increase of 1.5 new PTC-governed host railroads per year, beginning in the second year, for a total of approximately 14 additional host railroads. Table A summarizes the types of PTC systems the 35 PTC-mandated host railroads implemented,

as of 2020, and the approximate number of RFAs host railroads would file under FRA’s existing regulations, without this final rule.

**Table A. Estimated Number of Required RFAs to PTCSPs by Type of PTC System**

Type of PTC System	PTC Systems Being Implemented by Host Railroads (as of 2020) <sup>50</sup>	Annual Number of RFAs per PTC System	Total Number of RFAs
ACES II	8	1	8
CBTC	1	1	1
E-ATC	5	1	5
ITCS	1	1	1
I-ETMS	26	2	52
<b>Total</b>	<b>41</b>		<b>67</b>

Currently, without this final rule, FRA estimates the 35 host railroads would need to submit approximately 67 RFAs annually given the types of changes the industry intends to make to their PTC systems each year under 49 CFR 236.1021(h)(3)–(4) in the future.<sup>51</sup> FRA estimates that the current hourly burden is 160 hours per RFA (without this final rule), based on previously approved PTC Information Collection Requests (ICRs).

Table B below provides the current hourly burden and costs that host railroads face when submitting RFAs to their PTCSPs under the existing § 236.1021.

**Table B. Current Host Railroad Hourly Burden and Cost for RFAs to PTCSPs**

Year	Submissions	Hour Burden per Submission	Total Annual Cost	7-Percent	3-Percent
1	67	160	\$830,505	\$830,505	\$830,505
2	69	160	\$855,296	\$799,342	\$830,385
3	70	160	\$867,692	\$757,876	\$817,883
4	72	160	\$892,483	\$728,532	\$816,749
5	73	160	\$904,879	\$690,328	\$803,973
6	75	160	\$929,670	\$662,842	\$801,942
7	76	160	\$942,066	\$627,738	\$788,965
8	78	160	\$966,857	\$602,110	\$786,143
9	79	160	\$979,252	\$569,934	\$773,031

<sup>50</sup> Several host railroads have implemented multiple types of PTC systems.

<sup>51</sup> Previously, FRA estimated it would receive, on average, approximately 10 RFAs to railroads’ PTCIPs, PTCDPs, and PTCSPs each year. However, from discussions with PTC-mandated railroads, FRA found the estimate did not account adequately for the number of RFAs host railroads intend to submit to their PTCSPs annually under § 236.1021(h)(3)–(4) without the final rule. Tables A, B, and F in this final rule estimate more accurately the approximate average number of RFAs host railroads would submit to their PTCSPs each year under the existing regulations and under the final rule. See 84 FR 72121, 72127 (Dec. 30, 2019).

10	81	160	\$1,004,044	\$546,133	\$769,516
<b>Total</b>	<b>740</b>		<b>\$9,172,744</b>	<b>\$6,815,340</b>	<b>\$8,019,091</b>

## Costs

As described above, FRA is also amending the reporting requirement under 49 CFR 236.1029(h) by increasing the frequency from annual to biannual, clarifying the types of statistics and information the reports must include, and expanding the reporting requirement to encompass positive performance-related information. Though FRA's final rule will increase the number of required submissions, as well as the hourly burden per submission, FRA estimates the new costs will be offset by the business benefits derived from the final rule's changes as presented in the Business Benefits section below.

To clarify the information FRA is requiring host railroads to submit under § 236.1029(h), FRA created an Excel-based form for the Biannual Report of PTC System Performance (Form FRA F 6180.152). This form incorporates the information currently required under § 236.1029(h) and the additional types of information specified in this final rule. Host railroads with FRA-certified PTC systems are generally experienced in compiling this type of information, given the corresponding reporting requirements under the temporary Statutory Notification of PTC System Failures (Form FRA F 6180.177, OMB Control No. 2130-0553).

During the comment period for the NPRM, FRA received a general request from APTA on behalf of the commuter rail industry. APTA requests that FRA review its cost-benefit analysis associated with the changes to § 236.1029(h) proposed in the NPRM, including establishing the Biannual Report of PTC System Performance (Form FRA F 6180.152). Based on comments received, FRA reviewed and updated its burden estimate associated with expanding the reporting requirement under § 236.1029(h). The table below displays FRA's updated estimate of the burden associated with § 236.1029(h). Please note that the increased burden estimate is based on FRA's review of its proposed revisions to § 236.1029(h) based on comments received, and not on any substantial

changes in § 236.1029(h) from the NPRM to the final rule.

**Estimate Changes from NPRM to Final Rule**

<b>Description</b>	<b>NPRM</b>	<b>Final Rule</b>
Form FRA F 6180.152 Burden (First Three Years)	12 Hours	48 Hours
Form FRA F 6180.152 Burden (After Three Years)	10 Hours	28 Hours

The hourly burden associated with submitting the information required under § 236.1029(h) will increase initially from 8 hours per report (without the final rule) to 48 hours per report (with the final rule), on average. FRA estimates that, over time, railroads will develop processes that will decrease the reporting burden from 48 hours per submission to 28 hours per submission. FRA assumes this decrease will begin in the fourth year of the analysis as host railroads become more familiar with the Excel-based form and as they develop processes to improve their data collection and reporting. FRA did not receive any comments that dispute FRA's assumption that railroads will refine and expedite their reporting processes over time.

This analysis accounts for the marginal increase of 40 hours for the first three years of a host railroad reporting and 20 hours for each subsequent year, as compared to the 8-hour burden estimate associated with the existing § 236.1029(h). Table C below shows the marginal hourly burden increase associated with FRA's expansion of the reporting requirement under § 236.1029(h), under the final rule. Consistent with the previously stated estimates, FRA assumes that 35 host railroads will submit these biannual reports in the first year, and the number of applicable host railroads will increase by 1.5 railroads, on average, each year.

**Table C. Ten-Year Host Railroad Marginal Burden Increase**

<b>Year</b>	<b>Number of Host Railroad Submissions with Marginal 40-Hour Burden</b>	<b>Number of Host Railroad Submissions with Marginal 20-Hour Burden</b>	<b>Total Marginal Hourly Burden</b>

1	35	0	1,400 <sup>52</sup>
2	37	0	1,460
3	38	0	1,520
4	2	38	840
5	3	38	880
6	5	38	960
7	4	40	960
8	4	42	1,000
9	4	43	1,020
10	4	45	1,060
<b>Total</b>	<b>136</b>	<b>284</b>	<b>11,100</b>

In addition to the marginal increase, host railroads will face an additional reporting burden due to the change from annual to biannual reporting. This analysis accounts for the new burden of 48 hours for the first three years of a host railroad's reporting and 28 hours for each subsequent year to account for the changes from annual to biannual reporting and the expanded content requirements under § 236.1029(h). Table D below shows the new hourly burden under this final rule for the ten-year period of this analysis.

**Table D. Ten-Year Host Railroad New Submissions**

<b>Year</b>	<b>Number of Host Railroad Submissions with New 48-Hour Burden</b>	<b>Number of Host Railroad Submissions with New 28-Hour Burden</b>	<b>Total New Hourly Burden</b>
1	35	0	1,680 <sup>53</sup>
2	37	0	1,752
3	38	0	1,824
4	2	38	1,160
5	3	38	1,208
6	5	38	1,304
7	4	40	1,312
8	4	42	1,368
9	4	43	1,396
10	4	45	1,452
<b>Total</b>	<b>136</b>	<b>284</b>	<b>14,456</b>

FRA calculated the total additional burden hours for submissions by multiplying the respective number of submissions with their associated annual burden for each

<sup>52</sup> 1,400 = (35 host railroad submissions x 40 hours) + (0 host railroad submissions x 20 hours). This calculation is repeated throughout this table.

<sup>53</sup> 1,680 = (35 host railroad submissions x 48 hours) + (0 host railroad submissions x 28 hours). This calculation is repeated throughout this table.

individual year. The summation of the hourly burden is multiplied by the fully burdened wage rate of a Professional and Administrative employee. For purposes of this analysis, FRA uses the fully burdened rate of \$77.47 to calculate both the costs and cost savings throughout this analysis.<sup>54</sup> Table E provides the ten-year cost to the railroad industry associated with the expanded reporting requirement under § 236.1029(h).

**Table E. Ten-Year Total Costs**

Year	Total Marginal Hour Burden	Total New Submission Hour Burden	Total New Complete Hour Burden	Total Annual Host Railroad Submissions Cost <sup>55</sup>	7-Percent	3-Percent
1	1,400	1,680	3,080	\$238,615	\$238,615	\$238,615
2	1,460	1,752	3,212	\$248,842	\$232,562	\$241,594
3	1,520	1,824	3,344	\$259,068	\$226,280	\$244,196
4	840	1,160	2,000	\$154,945	\$126,481	\$141,797
5	880	1,208	2,088	\$161,763	\$123,408	\$143,724
6	960	1,304	2,264	\$175,398	\$125,056	\$151,300
7	960	1,312	2,272	\$176,018	\$117,288	\$147,412
8	1,000	1,368	2,368	\$183,455	\$114,246	\$149,166
9	1,020	1,396	2,416	\$187,174	\$108,937	\$147,757
10	1,060	1,452	2,512	\$194,611	\$105,855	\$149,153
<b>Total</b>	<b>11,100</b>	<b>14,456</b>	<b>25,556</b>	<b>\$1,979,887</b>	<b>\$1,518,730</b>	<b>\$1,754,713</b>

\*Note: Table may not sum due to rounding.

FRA estimates that the total cost to the railroad industry will be \$1.5 million, discounted at 7 percent, or \$1.8 million, discounted at 3 percent. In terms of governmental costs associated with the expanded reporting requirement, including the increase from annual to biannual reporting, FRA expects it will cost approximately \$10,000, over the ten-year period, to review the additional data railroads will submit in their Biannual Reports of PTC System Performance (Form FRA F 6180.152). As FRA considers these additional governmental costs to be *de minimis*, they are not included in the economic analysis.

<sup>54</sup> 2019 Composite Surface Transportation Board (STB) Professional and Administrative hourly wage rate of \$44.27 burdened by 75-percent ( $\$44.27 \times 1.75 = \$77.47$ ).

<sup>55</sup> Total Annual Host Railroad Submissions Cost = Total New Complete Hour Burden x \$77.47.

## Industry Business Benefits

Currently 35 host railroads are required to submit an RFA before changing safety-critical elements of their PTC systems and their PTCSPs under § 236.1021. FRA estimates that over the next ten years, the number of PTC-governed host railroads will increase by approximately 14, for a total of 49 host railroads. For purposes of this analysis, FRA estimates that approximately 1.5 new host railroads are added each year, beginning in year two.

Currently, under FRA's existing regulations and without this final rule, FRA estimates that host railroads would submit 67 annual RFAs to their PTCSPs that FRA must review and approve before those host railroads change and improve their PTC systems. Under this final rule, FRA is permitting host railroads that utilize the same type of PTC system to submit joint RFAs to their PTCSPs and PTCSPs.<sup>56</sup>

Table F below shows the number of RFAs to PTCSPs that would be submitted under the existing regulations compared to the final rule. Over a ten-year period, FRA estimates that the changes described in this final rule will result in railroads submitting approximately 590 fewer RFAs.

**Table F. Estimated Number of RFAs to PTCSPs**

<b>Current Types of PTC Systems</b>	<b>Approximate # of RFAs to PTCSPs per Year Under Existing Regulations</b>	<b>Approximate # of RFAs to PTCSPs per Year Under Final Rule</b>	<b>Total # of RFAs to PTCSPs Eliminated Under Final Rule</b>
ACSES II	8	8	0
CBTC	1	1	0
E-ATC	5	1	4
ITCS	1	1	0
I-ETMS	52	4 <sup>57</sup>	48
<b>Subtotal in Year 1:</b>	<b>67</b>	<b>15</b>	<b>52</b>

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<sup>56</sup> FRA expects that permitting host railroads to submit joint RFAs will impact primarily host railroads implementing I-ETMS and E-ATC because each I-ETMS system is relatively similar and manufactured by the same set of suppliers, and each E-ATC system is relatively similar and manufactured by the same set of suppliers.

<sup>57</sup> For I-ETMS systems, FRA estimates the total number of annual RFAs to PTCSPs would be reduced from 52 (under the existing regulation) to 4 (under the final rule)—*i.e.*, 2 RFAs per year from the set of railroads whose I-ETMS is certified as a mixed PTC system and 2 RFAs per year from the set of railroads whose I-ETMS is certified as a non-vital, overlay PTC system.



FRA estimates the current burden is 160 hours per RFA to a PTCSP based on the existing RFA content requirements. FRA's simplification of the content requirements in this final rule will reduce the burden hours by 50 percent, resulting in 80 burden hours per RFA. Table G provides the estimated ten-year cost to host railroads based on FRA simplifying the RFA process under § 236.1021, in this final rule.

**Table G. Ten-Year Cost of Joint RFAs and Simplified RFAs**

<b>Year</b>	<b>Submissions</b>	<b>Hour Burden per Submission</b>	<b>Total Annual Cost Savings</b>	<b>7-Percent</b>	<b>3-Percent</b>
1	15	80	\$92,967	\$92,967	\$92,967
2	15	80	\$92,967	\$86,885	\$90,259
3	15	80	\$92,967	\$81,201	\$87,630
4	15	80	\$92,967	\$75,889	\$85,078
5	15	80	\$92,967	\$70,924	\$82,600
6	15	80	\$92,967	\$66,284	\$80,194
7	15	80	\$92,967	\$61,948	\$77,858
8	15	80	\$92,967	\$57,895	\$75,591
9	15	80	\$92,967	\$54,108	\$73,389
10	15	80	\$92,967	\$50,568	\$71,251
<b>Total</b>	<b>150</b>		<b>\$929,670</b>	<b>\$698,669</b>	<b>\$816,818</b>

Overall, FRA expects that simplifying the content requirements for RFAs to PTCSPs, as well as permitting host railroads utilizing the same type of PTC system to submit joint RFAs, will result in business benefits of approximately \$6.1 million, discounted at 7 percent, or \$7.2 million, discounted at 3 percent, over the ten-year period of this analysis.

**Table H. Total Ten-Year Industry Business Benefits Associated with Revised § 236.1021**

<b>Year</b>	<b>Current Host Railroad Costs (Without Final Rule)</b>	<b>Cost of Joint RFAs and Simplified RFA Process (With Final Rule)</b>	<b>Total Annual Business Benefits</b>	<b>7-Percent</b>	<b>3-Percent</b>
1	\$830,505	\$92,967	\$737,538	\$737,538	\$737,538
2	\$855,296	\$92,967	\$762,329	\$712,457	\$740,126
3	\$867,692	\$92,967	\$774,725	\$676,675	\$730,253
4	\$892,483	\$92,967	\$799,516	\$652,643	\$731,671
5	\$904,879	\$92,967	\$811,912	\$619,404	\$721,373
6	\$929,670	\$92,967	\$836,703	\$596,558	\$721,747
7	\$942,066	\$92,967	\$849,099	\$565,790	\$711,107
8	\$966,857	\$92,967	\$873,890	\$544,215	\$710,552
9	\$979,252	\$92,967	\$886,285	\$515,826	\$699,642
10	\$1,004,044	\$92,967	\$911,077	\$495,565	\$698,264

<b>Total</b>	<b>\$9,172,744</b>	<b>\$929,670</b>	<b>\$8,243,074</b>	<b>\$6,116,671</b>	<b>\$7,202,273</b>
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In addition, FRA's changes to the RFA process will result in savings for the government, through a reduction in time needed to review an RFA with the existing contents under 49 CFR 236.1021(d)(1)–(7). Under the final rule, FRA will review a streamlined RFA with the more focused information that new paragraph (m)(2) requires.

Table I below outlines the assumptions FRA used to calculate the government savings. FRA's estimates assume there will be PTC system changes that are complex and will require additional time to review, as well as system changes that are less complex.

**Table I. Government Administrative Cost Assumptions**

<b>Staff Level</b>	<b>Average Employee Count Needed</b>	<b>Average Hourly Burden</b>	<b>Average Hourly Salary</b>	<b>Fully Burdened Rate</b>	<b>Savings per Staff Level</b>
GS-15	1	10	\$77.75	\$136.07	\$1,315
GS-14	2	105	\$62.34	\$109.10	\$19,171
GS-13	2	119	\$49.71	\$86.99	\$20,646
<b>Total</b>	<b>5</b>	<b>234</b>	<b>\$189.81</b>	<b>\$332.17</b>	<b>\$41,132</b>

Without the final rule, FRA would be required to review and approve or deny all 67 of the RFAs to PTCSPs that would be submitted annually. FRA estimates that over the next ten years, the total cost to the government would be \$30.4 million, undiscounted. Table J provides an overview of the ten-year government burden without this final rule.

**Table J. Ten-Year Government Burden (Without Final Rule)**

<b>Year</b>	<b>Submissions</b>	<b>Government Cost to Review Each Submission</b>	<b>Total Annual Cost</b>	<b>7-Percent</b>	<b>3-Percent</b>
1	67	\$41,132	\$2,755,871	\$2,755,871	\$2,755,871
2	69	\$41,132	\$2,838,136	\$2,652,463	\$2,755,471
3	70	\$41,132	\$2,879,268	\$2,514,864	\$2,713,986
4	72	\$41,132	\$2,961,533	\$2,417,493	\$2,710,222
5	73	\$41,132	\$3,002,665	\$2,290,719	\$2,667,829
6	75	\$41,132	\$3,084,930	\$2,199,512	\$2,661,088
7	76	\$41,132	\$3,126,062	\$2,083,027	\$2,618,028
8	78	\$41,132	\$3,208,327	\$1,997,985	\$2,608,664
9	79	\$41,132	\$3,249,460	\$1,891,215	\$2,565,153
10	81	\$41,132	\$3,331,724	\$1,812,237	\$2,553,489
<b>Total</b>	<b>740</b>	<b>\$411,324</b>	<b>\$30,437,976</b>	<b>\$22,615,387</b>	<b>\$26,609,802</b>

Based on the changes to § 236.1021 in this final rule, the number of RFAs that FRA will review will decrease from 67 to 15 per year, beginning in the first year. This reduction is the same as seen in the government savings estimate above. The resulting reduction means that the new government cost to review the RFAs will be reduced to \$6.2 million, undiscounted, over the ten-year period. Table K below outlines the government costs under the final rule.

**Table K. Ten-Year New Government Burden**

Year	Submissions	Government Cost to Review Each Submission	Total Annual Government Cost	7-Percent	3-Percent
1	15	\$41,132	\$616,986	\$616,986	\$616,986
2	15	\$41,132	\$616,986	\$576,622	\$599,016
3	15	\$41,132	\$616,986	\$538,899	\$581,568
4	15	\$41,132	\$616,986	\$503,644	\$564,630
5	15	\$41,132	\$616,986	\$470,696	\$548,184
6	15	\$41,132	\$616,986	\$439,902	\$532,218
7	15	\$41,132	\$616,986	\$411,124	\$516,716
8	15	\$41,132	\$616,986	\$384,228	\$501,666
9	15	\$41,132	\$616,986	\$359,091	\$487,054
10	15	\$41,132	\$616,986	\$335,600	\$472,868
<b>Total</b>	<b>150</b>	<b>\$411,324</b>	<b>\$6,169,860</b>	<b>\$4,636,793</b>	<b>\$5,420,906</b>

FRA estimates that its changes to § 236.1021 will result in a ten-year government savings of approximately \$18.0 million, discounted at 7 percent, or \$21.2 million, discounted at 3 percent.

**Table L. Government Administrative Savings**

Year	Current Government Cost to Review Submissions (Without Final Rule)	Government Cost to Review Submissions (With Final Rule)	Total Annual Government Savings	7-Percent	3-Percent
1	\$2,755,871	\$616,986	\$2,138,885	\$2,138,885	\$2,138,885
2	\$2,838,136	\$616,986	\$2,221,150	\$2,075,841	\$2,156,456
3	\$2,879,268	\$616,986	\$2,262,282	\$1,975,965	\$2,132,418
4	\$2,961,533	\$616,986	\$2,344,547	\$1,913,849	\$2,145,592
5	\$3,002,665	\$616,986	\$2,385,679	\$1,820,023	\$2,119,645
6	\$3,084,930	\$616,986	\$2,467,944	\$1,759,610	\$2,128,870
7	\$3,126,062	\$616,986	\$2,509,076	\$1,671,904	\$2,101,312
8	\$3,208,327	\$616,986	\$2,591,341	\$1,613,757	\$2,106,998
9	\$3,249,460	\$616,986	\$2,632,474	\$1,532,124	\$2,078,099
10	\$3,331,724	\$616,986	\$2,714,738	\$1,476,638	\$2,080,621

<b>Total</b>	<b>\$30,437,976</b>	<b>\$6,169,860</b>	<b>\$24,268,116</b>	<b>\$17,978,594</b>	<b>\$21,188,896</b>
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## Results

This final rule will reduce the burden on railroads while not adversely affecting railroad safety. To oversee the performance and reliability of railroads' PTC systems, FRA is expanding the reporting requirement under 49 CFR 236.1029(h), as described above. FRA estimates that the total ten-year industry cost associated with the expanded reporting requirement under § 236.1029(h) will be \$1.5 million, discounted at 7 percent, or \$1.8 million, discounted at 3 percent.

Although FRA is expanding that reporting requirement, this final rule reduces the regulatory and administrative burden on host railroads overall. For example, the simplification of RFAs to PTCSPs will reduce the number of burden hours per RFA. Also, FRA is permitting host railroads that utilize the same type of PTC system to submit joint RFAs to their PTCDPs and PTCSPs, thus reducing the number of RFAs railroads must submit in the future.

During the ten-year period in FRA's analysis, FRA expects that its changes will result in business benefits for the railroad industry of \$6.1 million, discounted at 7 percent, or \$7.2 million, discounted at 3 percent. In addition, during the same period, FRA expects that these changes will produce government savings amounting to \$18.0 million, discounted at 7 percent, or \$21.2 million, discounted at 3 percent.

FRA estimates that the total net benefits associated with this final rule will be \$22.6 million, discounted at 7 percent, or \$26.6 million, discounted at 3 percent. The annualized cost savings will be \$3.2 million, discounted at 7 percent, or \$3.1 million, discounted at 3 percent.

**Table M. Total Ten-Year Net Benefits**

<b>Year</b>	<b>Total Industry Business Benefits</b>	<b>Total Government Savings</b>	<b>Total Industry Costs</b>	<b>Total Net Benefits</b>	<b>7-Percent</b>	<b>3-Percent</b>
1	\$737,538	\$2,138,885	\$238,615	\$2,637,808	\$2,637,808	\$2,637,808

2	\$762,329	\$2,221,150	\$248,842	\$2,734,637	\$2,555,736	\$2,654,988
3	\$774,725	\$2,262,282	\$259,068	\$2,777,939	\$2,426,359	\$2,618,474
4	\$799,516	\$2,344,547	\$154,945	\$2,989,118	\$2,440,011	\$2,735,466
5	\$811,912	\$2,385,679	\$161,763	\$3,035,828	\$2,316,019	\$2,697,294
6	\$836,703	\$2,467,944	\$175,398	\$3,129,249	\$2,231,111	\$2,699,318
7	\$849,099	\$2,509,076	\$176,018	\$3,182,157	\$2,120,406	\$2,665,007
8	\$873,890	\$2,591,341	\$183,455	\$3,281,776	\$2,043,725	\$2,668,384
9	\$886,285	\$2,632,474	\$187,174	\$3,331,585	\$1,939,013	\$2,629,984
10	\$911,077	\$2,714,738	\$194,611	\$3,431,204	\$1,866,348	\$2,629,732
<b>Total</b>	<b>\$8,243,074</b>	<b>\$24,268,116</b>	<b>\$1,979,887</b>	<b>\$30,531,303</b>	<b>\$22,576,536</b>	<b>\$26,636,455</b>
<b>Annualized</b>					<b>\$3,214,391</b>	<b>\$3,122,605</b>

*B. Regulatory Flexibility Act and Executive Order 13272; Regulatory Flexibility Certification*

The final rule will apply to all host railroads subject to 49 U.S.C. 20157, including, in relevant part, five Class II or III, short line, or terminal railroads, and 23 intercity passenger railroads or commuter railroads. FRA has determined that one of these railroads is considered a small entity based on revenue and employee size.

Therefore, FRA has determined that this final rule will have an impact on a substantial number of small entities (one affected small entity out of one applicable small entity).

However, FRA has determined that the impact on the small entity affected by the final rule will not be significant as the costs are minimal and the business benefits of this rule outweigh the costs. Therefore, the impact on the small entity will be positive, taking the form of business benefits that are greater than any new costs imposed on the entity.

For the railroad industry over a ten-year period, FRA estimates that issuing the final rule will result in new costs of \$1.5 million, discounted at 7 percent, and \$1.8 million, discounted at 3 percent. FRA estimates that \$37,852 (discounted at 7 percent) and \$43,212 (discounted at 3 percent) of the total costs associated with implementing the final rule will be borne by a small entity. Therefore, less than three percent of the final rule's total costs will be borne by a small entity. Additionally, FRA estimates that the final rule will result in business benefits of \$149,474, discounted at 7 percent, and \$173,983, discounted at 3 percent, for the small entity impacted by this final rule. In

total, for the ten-year period of this analysis, the final rule will result in a net benefit of \$111,623, discounted at 7 percent, and \$130,770, discounted at 3 percent, for a small entity.

Consistent with the findings in FRA’s initial regulatory flexibility analysis, and the lack of any comments received on it, the Administrator of FRA hereby certifies that this final rule will not have a significant economic impact on a substantial number of small entities.

*C. Paperwork Reduction Act*

The information collection requirements in this final rule are being submitted for approval to OMB under the Paperwork Reduction Act of 1995, 44 U.S.C. 3501, *et seq.*

Please note that any new or revised requirements, as adopted in the final rule, are marked by asterisks (\*) in the table below. The sections that contain the current and new information collection requirements under OMB Control No. 2130-0553<sup>58</sup> and the estimated time to fulfill each requirement are as follows:

CFR Section/Subject <sup>59</sup>	Respondent Universe	Total Annual Responses	Average Time per Response	Total Annual Burden Hours	Total Annual Dollar Cost Equivalent <sup>60</sup>
235.6(c) – Expedited application for approval of certain changes described in this section	42 railroads	10 expedited applications	5 hours	50 hours	\$3,850
– Copy of expedited application to labor union	42 railroads	10 copies	30 minutes	5 hours	\$385
– Railroad letter rescinding its request for expedited application of certain signal system changes	42 railroads	1 letter	6 hours	6 hours	\$462

<sup>58</sup> See also 84 FR 72121 (Dec. 30, 2019) (60-day ICR notice); 85 FR 15022 (Mar. 16, 2020) (30-day ICR notice); 85 FR 82400 (Dec. 18, 2020) (NPRM). On June 5, 2020, OMB approved the revised ICR, entitled “PTC and Other Signal Systems,” under OMB Control No. 2130-0553, for a period of three years, expiring on June 30, 2023.

<sup>59</sup> The burdens associated with Forms FRA F 6180.165 (Quarterly PTC Progress Reports) and FRA F 6180.166 (Annual PTC Progress Reports) have been completed. By law, railroads’ final Quarterly PTC Progress Reports were due on January 31, 2021, and railroads’ final Annual PTC Progress Reports were due on March 31, 2021. See 49 U.S.C. 20157(c)(1), (2).

<sup>60</sup> The dollar equivalent cost is derived from the 2019 STB Full Year Wage A&B data series using the appropriate employee group hourly wage rate that includes a 75-percent overhead charge. For Executives, Officials, and Staff Assistants, this cost amounts to \$120 per hour. For Professional/Administrative staff, this cost amounts to \$77 per hour.

– Revised application for certain signal system changes	42 railroads	1 application	5 hours	5 hours	\$385
– Copy of railroad revised application to labor union	42 railroads	1 copy	30 minutes	.5 hours	\$39
236.1 – Railroad maintained signal plans at all interlockings, automatic signal locations, and controlled points, and updates to ensure accuracy	700 railroads	25 plan changes	15 minutes	6.3 hours	\$485
236.15 – Designation of automatic block, traffic control, train stop, train control, cab signal, and PTC territory in timetable instructions	700 railroads	10 timetable instructions	30 minutes	5 hours	\$385
236.18 – Software management control plan – New railroads	2 railroads	2 plans	160 hours	320 hours	\$24,640
236.23(e) – The names, indications, and aspects of roadway and cab signals shall be defined in the carrier’s Operating Rule Book or Special Instructions. Modifications shall be filed with FRA within 30 days after such modifications become effective	700 railroads	2 modifications	1 hour	2 hours	\$154
236.587(d) – Certification and departure test results	742 railroads	4,562,500 train departures	5 seconds	6,337 hours	\$487,949
236.905(a) – Railroad Safety Program Plan (RSPP) – New railroads	2 railroads	2 RSPPs	40 hours	80 hours	\$6,160
236.913(a) – Filing and approval of a joint Product Safety Plan (PSP)	742 railroads	1 joint plan	2,000 hours	2,000 hours	\$240,000
(c)(1) – Informational filing/petition for special approval	742 railroads	0.5 filings/approval petitions	50 hours	25 hours	\$1,925
(c)(2) – Response to FRA’s request for further data after informational filing	742 railroads	0.25 data calls/documents	5 hours	1 hour	\$77
(d)(1)(ii) – Response to FRA’s request for further information within 15 days after receipt of the Notice of Product Development (NOPD)	742 railroads	0.25 data calls/documents	1 hour	0.25 hours	\$19
(d)(1)(iii) – Technical consultation by FRA with the railroad on the design and planned development	742 railroads	0.25 technical consultations	5 hours	1.3 hour	\$100

of the product					
(d)(1)(v) – Railroad petition to FRA for final approval of NOPD	742 railroads	0.25 petitions	1 hour	0.25 hours	\$19
(d)(2)(ii) – Response to FRA’s request for additional information associated with a petition for approval of PSP or PSP amendment	742 railroads	1 request	50 hours	50 hours	\$3,850
(e) – Comments to FRA on railroad informational filing or special approval petition	742 railroads	0.5 comments/letters	10 hours	5 hours	\$385
(h)(3)(i) – Railroad amendment to PSP	742 railroads	2 amendments	20 hours	40 hours	\$3,080
(j) – Railroad field testing/information filing document	742 railroads	1 field test document	100 hours	100 hours	\$7,700
236.917(a) – Railroad retention of records: results of tests and inspections specified in the PSP	13 railroads with PSP	13 PSP safety results	160 hours	2,080 hours	\$160,160
(b) – Railroad report that frequency of safety-relevant hazards exceeds threshold set forth in PSP	13 railroads	1 report	40 hours	40 hours	\$3,080
(b)(3) – Railroad final report to FRA on the results of the analysis and countermeasures taken to reduce the frequency of safety-relevant hazards	13 railroads	1 report	10 hours	10 hours	\$770
236.919(a) – Railroad Operations and Maintenance Manual (OMM)	13 railroads	1 OMM update	40 hours	40 hours	\$3,080
(b) – Plans for proper maintenance, repair, inspection, and testing of safety-critical products	13 railroads	1 plan update	40 hours	40 hours	\$3,080
(c) – Documented hardware, software, and firmware revisions in OMM	13 railroads	1 revision	40 hours	40 hours	\$3,080
236.921 and 923(a) – Railroad Training and Qualification Program	13 railroads	1 program	40 hours	40 hours	\$3,080
236.923(b) – Training records retained in a designated location and available to FRA upon request	13 railroads	350 records	10 minutes	58 hours	\$4,466
Form FRA F 6180.177 – Statutory Notification of PTC System Failures (Under 49 U.S.C.	38 railroads	144 reports/forms	1 hour	144 hours	\$11,088



20157(j)(4)) <sup>61</sup>					
236.1001(b) – A railroad’s additional or more stringent rules than prescribed under 49 CFR part 236, subpart I	38 railroads	1 rule or instruction	40 hours	40 hours	\$4,800
236.1005(b)(4)(i)–(ii) – A railroad’s submission of estimated traffic projections for the next 5 years, to support a request, in a PTCIP or an RFA, not to implement a PTC system based on reductions in rail traffic	The burden is accounted for under 49 CFR 236.1009(a) and 236.1021.				
(b)(4)(iii) – A railroad’s request for a <i>de minimis</i> exception, in a PTCIP or an RFA, based on a minimal quantity of PIH materials traffic	7 Class I railroads	1 exception request	40 hours	40 hours	\$3,080
(b)(5) – A railroad’s request to remove a line from its PTCIP based on the sale of the line to another railroad and any related request for FRA review from the acquiring railroad	The burden is accounted for under 49 CFR 236.1009(a) and 236.1021.				
(g)(1)(i) – A railroad’s request to temporarily reroute trains not equipped with a PTC system onto PTC-equipped tracks and vice versa during certain emergencies	38 railroads	45 rerouting extension requests	8 hours	360 hours	\$27,720
(g)(1)(ii) – A railroad’s written or telephonic notice of the conditions necessitating emergency rerouting and other required information under 236.1005(i)	38 railroads	45 written or telephonic notices	2 hours	90 hours	\$6,930
(g)(2) – A railroad’s temporary rerouting request due to planned maintenance not exceeding 30 days	38 railroads	720 requests	8 hours	5,760 hours	\$443,520
(h)(1) – A response to any request for additional information from FRA, prior to commencing rerouting due to planned	38 railroads	10 requests	2 hours	20 hours	\$1,540

<sup>61</sup> The temporary Statutory Notification of PTC System Failures (Form FRA F 6180.177) expires on approximately December 31, 2021, per 49 U.S.C. 20157(j).

maintenance					
(h)(2) – A railroad’s request to temporarily reroute trains due to planned maintenance exceeding 30 days	38 railroads	160 requests	8 hours	1,280 hours	\$98,560
236.1006(b)(4)(iii)(B) – A progress report due by December 31, 2020, and by December 31, 2022, from any Class II or III railroad utilizing a temporary exception under this section	262 railroads	5 reports	16 hours	80 hours	\$6,160
(b)(5)(vii) – A railroad’s request to utilize different yard movement procedures, as part of a freight yard movements exception	The burden is accounted for under 49 CFR 236.1015 and 236.1021.				
236.1007(b)(1) – For any high-speed service over 90 miles per hour (mph), a railroad’s PTC Safety Plan (PTCSP) must additionally establish that the PTC system was designed and will be operated to meet the fail-safe operation criteria in Appendix C	The burden is accounted for under 49 CFR 236.1015 and 236.1021.				
(c) – An HSR-125 document accompanying a host railroad’s PTCSP, for operations over 125 mph	38 railroads	1 HSR-125 document	3,200 hours	3,200 hours	\$384,000
(c)(1) – A railroad’s request for approval to use foreign service data, prior to submission of a PTCSP	38 railroads	0.3 requests	8,000 hours	2,667 hours	\$205,359
(d) – A railroad’s request in a PTCSP that FRA excuse compliance with one or more of this section’s requirements	38 railroads	1 request	1,000 hours	1,000 hours	\$120,000
236.1009(a)(2) – A PTCIP if a railroad becomes a host railroad of a main line requiring the implementation of a PTC system, including the information under 49 U.S.C. 20157(a)(2) and 49 CFR 236.1011	264 railroads	1 PTCIP	535 hours	535 hours	\$64,200
(a)(3) – Any new PTCIPs jointly filed by a host railroad and a tenant railroad	264 railroads	1 joint PTCIP	267 hours	267 hours	\$32,040

(b)(1) – A host railroad’s submission, individually or jointly with a tenant railroad or PTC system supplier, of an unmodified Type Approval	264 railroads	1 document	8 hours	8 hours	\$616
(b)(2) – A host railroad’s submission of a PTCDP with the information required under 49 CFR 236.1013, requesting a Type Approval for a PTC system that either does not have a Type Approval or has a Type Approval that requires one or more variances	264 railroads	1 PTCDP	2,000 hours	2,000 hours	\$154,000
(d) – A host railroad’s submission of a PTCSP	The burdens are accounted for under 49 CFR 236.1015.				
(e)(3) – Any request for full or partial confidentiality of a PTCIP, Notice of Product Intent (NPI), PTCDP, or PTCSP	38 railroads	10 confidentiality requests	8 hours	80 hours	\$6,160
(h) – Any responses or documents submitted in connection with FRA’s use of its authority to monitor, test, and inspect processes, procedures, facilities, documents, records, design and testing materials, artifacts, training materials and programs, and any other information used in the design, development, manufacture, test, implementation, and operation of the PTC system, including interviews with railroad personnel	38 railroads	36 interviews and documents	4 hours	144 hours	\$11,088
(j)(2)(iii) – Any additional information provided in response to FRA’s consultations or inquiries about a PTCDP or PTCSP	38 railroads	1 set of additional information	400 hours	400 hours	\$30,800
236.1011(a)–(b) – PTCIP content requirements	The burdens are accounted for under 49 CFR 236.1009(a) and (e) and 236.1021.				
(e) – Any public comment on PTCIPs, NPIs, PTCDPs, and PTCSPs	38 railroads	2 public comments	8 hours	16 hours	\$1,232
236.1013, PTCDP and NPI content requirements	The burdens are accounted for under 49 CFR 236.1009(b), (c), and (e) and 236.1021.				

236.1015 – Any new host railroad’s PTCSP meeting all content requirements under 49 CFR 236.1015	264 railroads	1 PTCSP	8,000 hours	8,000 hours	\$616,000
(g) – A PTCSP for a PTC system replacing an existing certified PTC system	38 railroads	0.3 PTCSPs	3,200 hours	1,067 hours	\$82,159
(h) – A quantitative risk assessment, if FRA requires one to be submitted	38 railroads	0.3 assessments	800 hours	267 hours	\$20,559
236.1017(a) – An independent third-party assessment, if FRA requires one to be conducted and submitted	38 railroads	0.3 assessments	1,600 hours	533 hours	\$63,960
(b) – A railroad’s written request to confirm whether a specific entity qualifies as an independent third party	38 railroads	0.3 written requests	8 hours	3 hours	\$231
– Further information provided to FRA upon request	38 railroads	0.3 sets of additional information	20 hours	7 hours	\$539
(d) – A request not to provide certain documents otherwise required under Appendix F for an independent, third-party assessment	38 railroads	0.3 requests	20 hours	7 hours	\$539
(e) – A request for FRA to accept information certified by a foreign regulatory entity for purposes of 49 CFR 236.1017 and/or 236.1009(i)	38 railroads	0.3 requests	32 hours	11 hours	\$847
236.1019(b) – A request for a passenger terminal main line track exception (MTEA)	38 railroads	1 MTEA	160 hours	160 hours	\$12,320
(c)(1) – A request for a limited operations exception (based on restricted speed, temporal separation, or a risk mitigation plan)	38 railroads	1 request and/or plan	160 hours	160 hours	\$12,320
(c)(2) – A request for a limited operations exception for a non-Class I, freight railroad’s track	10 railroads	1 request	160 hours	160 hours	\$12,320
(c)(3) – A request for a limited operations exception for a Class I railroad’s track	7 railroads	1 request	160 hours	160 hours	\$12,320
(d) – A railroad’s collision	38 railroads	0.3 collision	50 hours	17 hours	\$1,309

hazard analysis in support of an MTEA, if FRA requires one to be conducted and submitted		hazard analysis			
(e) – Any temporal separation procedures utilized under the 49 CFR 236.1019(c)(1)(ii) exception	The burdens are accounted for under 49 CFR 236.1019(c)(1).				
236.1021(a)–(d) – Any RFA to a railroad’s PTCIP or PTCDP	38 railroads	10 RFAs	160 hours	1,600 hours	\$123,200
(e) – Any public comments, if an RFA includes a request for approval of a discontinuance or material modification of a signal or train control system and a <i>Federal Register</i> notice is published	5 interested parties	10 RFA public comments	16 hours	160 hours	\$12,320
(l) – Any jointly filed RFA to a PTCDP or PTCSP (*Note: This is a new proposed paragraph to authorize host railroads to file joint RFAs in certain cases, but such RFAs are already required under FRA’s existing regulations*)	The burdens are accounted for under 49 CFR 236.1021(a)–(d) and (m).				
(m) – Any RFA to a railroad’s PTCSP (*Note: Revised requirement. This is a new proposed paragraph with a simplified process governing RFAs to PTCSPs*)	38 railroads	15 RFAs	80 hours	1,200 hours	\$92,400
236.1023(a) – A railroad’s PTC Product Vendor List, which must be continually updated	38 railroads	2 updated lists	8 hours	16 hours	\$1,232
(b)(1) – All contractual arrangements between a railroad and its hardware and software suppliers or vendors for certain immediate notifications	The burdens are accounted for under 49 CFR 236.1015 and 236.1021.				
(b)(2)–(3) – A vendor’s or supplier’s notification, upon receipt of a report of any safety-critical failure of its product, to any railroads using the product	10 vendors or suppliers	10 notifications	8 hours	80 hours	\$6,160
(c)(1)–(2) – A railroad’s process and procedures for taking action upon being	The burdens are accounted for under 49 CFR 236.1015 and 236.1021.				

notified of a safety-critical failure or a safety-critical upgrade, patch, revision, repair, replacement, or modification, and a railroad's configuration/revision control measures, set forth in its PTCSP					
(d) – A railroad's submission, to the applicable vendor or supplier, of the railroad's procedures for action upon notification of a safety-critical failure, upgrade, patch, or revision to the PTC system and actions to be taken until it is adjusted, repaired, or replaced	38 railroads	2.5 notifications	16 hours	40 hours	\$3,080
(e) – A railroad's database of all safety-relevant hazards, which must be maintained after the PTC system is placed in service	38 railroads	38 database updates	16 hours	608 hours	\$46,816
(e)(1) – A railroad's notification to the vendor or supplier and FRA if the frequency of a safety-relevant hazard exceeds the threshold set forth in the PTCDP and PTCSP, and about the failure, malfunction, or defective condition that decreased or eliminated the safety functionality	38 railroads	8 notifications	8 hours	64 hours	\$4,928
(e)(2) – Continual updates about any and all subsequent failures	38 railroads	1 update	8 hours	8 hours	\$616
(f) – Any notifications that must be submitted to FRA under 49 CFR 236.1023	The burdens are accounted for under 49 CFR 236.1023(e), (g), and (h).				
(g) – A railroad's and vendor's or supplier's report, upon FRA request, about an investigation of an accident or service difficulty due to a manufacturing or design defect and their corrective actions	38 railroads	0.5 reports	40 hours	20 hours	\$1,540
(h) – A PTC system vendor's or supplier's reports of any safety-relevant failures, defective conditions, previously unidentified hazards,	10 vendors or suppliers	20 reports	8 hours	160 hours	\$12,320

recommended mitigation actions, and any affected railroads					
(k) – A report of a failure of a PTC system resulting in a more favorable aspect than intended or other condition hazardous to the movement of a train, including the reports required under part 233	The burdens are accounted for under 49 CFR 236.1023(e), (g), and (h) and 49 CFR part 233.				
236.1029(b)(4) – A report of an en route failure, other failure, or cut out to a designated railroad officer of the host railroad	150 host and tenant railroads	1,000 reports	30 minutes	500 hours	\$38,500
(h) – Form FRA F 6180.152 – Biannual Report of PTC System Performance (*Revised requirement and new form*) <sup>62</sup>	38 railroads	73 reports	48 hours	3,504 hours	\$269,808
236.1033 – Communications and security requirements	The burdens are accounted for under 49 CFR 236.1009 and 236.1015.				
236.1035(a)–(b) – A railroad’s request for authorization to field test an uncertified PTC system and any responses to FRA’s testing conditions	38 railroads	10 requests	40 hours	400 hours	\$30,800
236.1037(a)(1)–(2) – Records retention	The burdens are accounted for under 49 CFR 236.1009 and 236.1015.				
(a)(3)–(4) – Records retention	The burdens are accounted for under 49 CFR 236.1039 and 236.1043(b).				
(b) – Results of inspections and tests specified in a railroad’s PTCSP and PTCDP	38 railroads	800 records	1 hour	800 hours	\$61,600
(c) – A contractor’s records related to the testing, maintenance, or operation of a PTC system maintained at a designated office	20 contractors	1,600 records	10 minutes	267 hours	\$20,559
(d)(3) – A railroad’s final report of the results of the analysis and countermeasures taken to	38 railroads	8 final reports	160 hours	1,280 hours	\$98,560

<sup>62</sup> In response to a public comment, FRA revised the average time per submission from 12 hours, as estimated in the NPRM, to 48 hours. In addition, for the applicable three-year period for PRA purposes, FRA revised the number of annual responses from 76 to 73, which aligns with the economic estimates in this final rule, including the assumption that each year 1.5 additional PTC-governed railroads will submit these biannual reports.

reduce the frequency of safety-related hazards below the threshold set forth in the PTCSP					
236.1039(a)–(c), (e) – A railroad’s PTC Operations and Maintenance Manual (OMM), which must be maintained and available to FRA upon request	38 railroads	2 OMM updates	10 hours	20 hours	\$1,540
(d) – A railroad’s identification of a PTC system’s safety-critical components, including spare equipment	38 railroads	1 identified new component	1 hour	1 hour	\$77
236.1041(a)–(b) and 236.1043(a) – A railroad’s PTC Training and Qualification Program ( <i>i.e.</i> , a written plan)	38 railroads	2 programs	10 hours	20 hours	\$1,540
236.1043(b) – Training records retained in a designated location and available to FRA upon request	150 host and tenant railroads	150 PTC training record databases	1 hour	150 hours	\$11,550
Total	N/A	4,567,897 responses	N/A	50,969 hours	\$4,250,307

All estimates include the time for reviewing instructions; searching existing data sources; gathering or maintaining the needed data; and reviewing the information. For information or a copy of the paperwork package submitted to OMB, contact Ms. Hodan Wells, Information Collection Clearance Officer, at 202-493-0440.

Organizations and individuals desiring to submit comments on the collection of information requirements should direct them via e-mail to Ms. Wells at *Hodan.Wells@dot.gov*.

OMB is required to make a decision concerning the collection of information requirements contained in this rule between 30 and 60 days after publication of this document in the *Federal Register*. Therefore, a comment to OMB is best assured of having its full effect if OMB receives it within 30 days of publication. FRA is not authorized to impose a penalty on persons for violating information collection requirements that do not display a current OMB control number, if required.



*D. Federalism Implications*

Executive Order 13132, “Federalism,” requires FRA to develop an accountable process to ensure “meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.” *See* 64 FR 43255 (Aug. 10, 1999). “Policies that have federalism implications” are defined in the Executive Order to include regulations having “substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.” *Id.* Under Executive Order 13132, the agency may not issue a regulation with federalism implications that imposes substantial direct compliance costs and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments or the agency consults with State and local government officials early in the process of developing the regulation. Where a regulation has federalism implications and preempts State law, the agency seeks to consult with State and local officials in the process of developing the regulation.

FRA has analyzed this final rule under the principles and criteria contained in Executive Order 13132. FRA has determined this final rule will not have a substantial direct effect on the States or their political subdivisions; on the relationship between the Federal government and the States or their political subdivisions; or on the distribution of power and responsibilities among the various levels of government. In addition, FRA has determined this final rule does not impose substantial direct compliance costs on State and local governments. Therefore, the consultation and funding requirements of Executive Order 13132 do not apply.

This final rule could have preemptive effect by the operation of law under a provision of the former Federal Railroad Safety Act of 1970, repealed and recodified at 49 U.S.C. 20106. Section 20106 provides that States may not adopt or continue in effect

any law, regulation, or order related to railroad safety or security that covers the subject matter of a regulation prescribed or order issued by the Secretary of Transportation (with respect to railroad safety matters) or the Secretary of Homeland Security (with respect to railroad security matters), except when the State law, regulation, or order qualifies under the “essentially local safety or security hazard” exception to section 20106.

FRA has analyzed this final rule in accordance with the principles and criteria contained in Executive Order 13132. As explained above, FRA has determined that this final rule has no federalism implications, other than the possible preemption of State laws under Federal railroad safety statutes, specifically 49 U.S.C. 20106. Accordingly, FRA has determined that preparation of a federalism summary impact statement for this final rule is not required.

*E. International Trade Impact Assessment*

The Trade Agreements Act of 1979 prohibits Federal agencies from engaging in any standards or related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and where appropriate, that they be the basis for U.S. standards. This final rule is purely domestic in nature and is not expected to affect trade opportunities for U.S. firms doing business overseas or for foreign firms doing business in the United States.

*F. Environmental Impact*

FRA has evaluated this final rule consistent with the National Environmental Policy Act (NEPA; 42 U.S.C. 4321, *et seq.*), the Council of Environmental Quality’s NEPA implementing regulations at 40 CFR parts 1500–1508, and FRA’s NEPA implementing regulations at 23 CFR part 771, and determined that it is categorically excluded from environmental review and therefore does not require the preparation of an environmental assessment (EA) or environmental impact statement (EIS). Categorical

exclusions (CEs) are actions identified in an agency's NEPA implementing regulations that do not normally have a significant impact on the environment and therefore do not require either an EA or EIS. *See* 40 CFR 1508.4. Specifically, FRA has determined that this final rule is categorically excluded from detailed environmental review pursuant to 23 CFR 771.116(c)(15), "Promulgation of rules, the issuance of policy statements, the waiver or modification of existing regulatory requirements, or discretionary approvals that do not result in significantly increased emissions of air or water pollutants or noise."

The purpose of this rulemaking is to revise FRA's PTC regulations to reduce unnecessary costs and facilitate innovation, while improving FRA's oversight. This final rule does not directly or indirectly impact any environmental resources and will not result in significantly increased emissions of air or water pollutants or noise. Instead, the final rule is likely to result in safety benefits. In analyzing the applicability of a CE, FRA must also consider whether unusual circumstances are present that would warrant a more detailed environmental review. *See* 23 CFR 771.116(b). FRA has concluded that no such unusual circumstances exist with respect to this regulation, and the final rule meets the requirements for categorical exclusion under 23 CFR 771.116(c)(15).

Pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations, FRA has determined this undertaking has no potential to affect historic properties. *See* 16 U.S.C. 470. FRA has also determined that this rulemaking does not approve a project resulting in a use of a resource protected by Section 4(f). *See* Department of Transportation Act of 1966, as amended (Pub. L. No. 89-670, 80 Stat. 931); 49 U.S.C. 303.

*G. Executive Order 12898 (Environmental Justice)*

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," and DOT Order 5610.2B, dated November 18, 2020, require DOT agencies to consider environmental justice principles

by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. The DOT Order instructs DOT agencies to address compliance with Executive Order 12898 and requirements within the DOT Order in rulemaking activities, as appropriate. FRA has evaluated this final rule and has determined it will not cause disproportionately high and adverse human health and environmental effects on minority populations or low-income populations.

#### *H. Unfunded Mandates Reform Act of 1995*

Under section 201 of the Unfunded Mandates Reform Act of 1995 (Pub. L. No. 104-4, 2 U.S.C. 1531), each Federal agency “shall, unless otherwise prohibited by law, assess the effects of Federal regulatory actions on State, local, and tribal governments, and the private sector (other than to the extent that such regulations incorporate requirements specifically set forth in law).” Section 202 of the Act (2 U.S.C. 1532) further requires that “before promulgating any general notice of proposed rulemaking that is likely to result in promulgation of any rule that includes any Federal mandate that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100,000,000 or more (adjusted annually for inflation) in any 1 year, and before promulgating any final rule for which a general notice of proposed rulemaking was published, the agency shall prepare a written statement” detailing the effect on State, local, and tribal governments and the private sector. This final rule will not result in the expenditure, in the aggregate, of \$100,000,000 or more (as adjusted annually for inflation) in any one year, and thus preparation of such a statement is not required.

#### *I. Energy Impact*

Executive Order 13211, “Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use,” requires Federal agencies to prepare a

Statement of Energy Effects for any “significant energy action.” 66 FR 28355 (May 22, 2001). FRA has evaluated this final rule under Executive Order 13211 and determined that this final rule is not a “significant energy action” within the meaning of Executive Order 13211.

#### **List of Subjects in 49 CFR Part 236**

Penalties, Positive train control, Railroad safety, Reporting and recordkeeping requirements.

In consideration of the foregoing, FRA is amending 49 CFR part 236, as follows:

#### **PART 236 – RULES, STANDARDS, AND INSTRUCTIONS GOVERNING THE INSTALLATION, INSPECTION, MAINTENANCE, AND REPAIR OF SIGNAL AND TRAIN CONTROL SYSTEMS, DEVICES, AND APPLIANCES –**

1. The authority citation for part 236 continues to read as follows:

**Authority:** 49 U.S.C. 20102–20103, 20107, 20133, 20141, 20157, 20301–20303, 20306, 20501–20505, 20701–20703, 21301–21302, 21304; 28 U.S.C. 2461, note; and 49 CFR 1.89.

2. In § 236.1003 amend paragraph (b) by adding the definitions of “Cut out,” “Initialization failure,” and “Malfunction” in alphabetical order to read as follows:

#### **§ 236.1003 Definitions.**

\* \* \* \* \*

(b) \* \* \*

*Cut out* means any disabling of a PTC system, subsystem, or component en route (including when the PTC system cuts out on its own or a person cuts out the system with authorization), unless the cut out was necessary to exit PTC-governed territory and enter non-PTC territory.

\* \* \* \* \*

*Initialization failure* means any instance when a PTC system fails to activate on a

locomotive or train, unless the PTC system successfully activates during a subsequent attempt in the same location or before entering PTC-governed territory. For the types of PTC systems that do not initialize by design, a failed departure test is considered an initialization failure for purposes of the reporting requirement under § 236.1029(h), unless the PTC system successfully passes the departure test during a subsequent attempt in the same location or before entering PTC-governed territory.

\* \* \* \* \*

*Malfunction* means any instance when a PTC system, subsystem, or component fails to perform the functions mandated under 49 U.S.C. 20157(i)(5), this subpart, or the applicable host railroad's PTCSP.

\* \* \* \* \*

3. Amend § 236.1021 by:

- a. Revising paragraphs (a), (c), (d) introductory text, and (d)(4);
- b. Removing paragraph (d)(7); and
- c. Adding paragraphs (l) and (m).

The revisions and additions read as follows:

**§ 236.1021     Discontinuances, material modifications, and amendments.**

(a) No changes, as defined by this section, to a PTCIP or PTCDP may be made unless:

(1) The railroad files a request for amendment (RFA) to the applicable PTCIP or PTCDP with the Associate Administrator; and

(2) The Associate Administrator approves the RFA.

\* \* \* \* \*

(c) In lieu of a separate filing under part 235 of this chapter, a railroad may request approval of a discontinuance or material modification of a signal or train control system by filing an RFA to its PTCIP or PTCDP with the Associate Administrator.

(d) FRA will not approve an RFA to a PTCIP or PTCDP unless the request includes:

\* \* \* \* \*

(4) The changes to the PTCIP or PTCDP, as applicable;

\* \* \* \* \*

(l) Any RFA to a PTCDP or PTCSP pursuant to this section may be submitted jointly with other host railroads utilizing the same type of PTC system. However, only host railroads with the same PTC System Certification classification under § 236.1015(e) may jointly file an RFA to their PTCSPs. Any joint RFA to multiple host railroads' PTCSPs must include the information required under paragraph (m) of this section. The joint RFA must also include the written confirmation and statement specified under paragraphs (m)(2)(iii) and (iv) of this section from each host railroad jointly filing the RFA.

(m) No changes, as specified under paragraph (h)(3) or (4) of this section, may be made to an FRA-certified PTC system or an FRA-approved PTCSP unless the host railroad first complies with the following process:

(1) The host railroad revises its PTCSP to account for each proposed change to its PTC system and summarizes such changes in a chronological table of revisions at the beginning of its PTCSP;

(2) The host railroad electronically submits the following information in an RFA to the Director of FRA's Office of Railroad Systems and Technology:

(i) A summary of the proposed changes to any safety-critical elements of a PTC system, including a summary of how the changes to the PTC system would affect its safety-critical functionality, how any new hazards have been addressed and mitigated, whether each change is a planned change that was previously included in all required analysis under § 236.1015 or an unplanned change, and the reason for the proposed

changes, including whether the changes are necessary to address or resolve an emergency or urgent issue;

(ii) Any associated software release notes;

(iii) A confirmation that the host railroad has notified any applicable tenant railroads of the proposed changes, any associated effect on the tenant railroads' operations, and any actions the tenant railroads must take in accordance with the configuration control measures set forth in the host railroad's PTCSPP;

(iv) A statement from a qualified representative of the host railroad, verifying that the modified PTC system would meet all technical requirements under this subpart, provide an equivalent or greater level of safety than the existing PTC system, and not adversely impact interoperability with any tenant railroads; and

(v) Any other information that FRA requests; and

(3) A host railroad shall not make any changes, as specified under paragraph (h)(3) or (4) of this section, to its PTC system until the Director of FRA's Office of Railroad Systems and Technology approves the RFA.

(i) FRA will approve, approve with conditions, or deny the RFA within 45 days of the date on which the RFA was filed under paragraph (m)(2) of this section.

(ii) FRA reserves the right to notify a railroad that changes may proceed prior to the 45-day mark, including in an emergency or under other circumstances necessitating a railroad's immediate implementation of the proposed changes to its PTC system.

(iii) FRA may require a railroad to modify its RFA or its PTC system to the extent necessary to ensure safety or compliance with the requirements of this part.

(iv) Following any FRA denial of an RFA, each applicable railroad is prohibited from making the proposed changes to its PTC system until the railroad both sufficiently addresses FRA's questions, comments, and concerns and obtains FRA's approval.

Consistent with paragraph (l) of this section, any host railroads utilizing the same type of



PTC system, including the same certification classification under § 236.1015(e), may jointly submit information to address FRA's questions, comments, and concerns following any denial of an RFA under this section.

4. Amend § 236.1029 by revising paragraph (h) to read as follows:

**§ 236.1029 PTC system use and failures.**

\* \* \* \* \*

(h) *Biannual Report of PTC System Performance.* (1) Each host railroad subject to 49 U.S.C. 20157 or this subpart shall electronically submit a Biannual Report of PTC System Performance on Form FRA F 6180.152, containing the following information for the applicable reporting period, separated by the host railroad, each applicable tenant railroad, and each PTC-governed track segment (*e.g.*, territory, subdivision, district, main line, branch, or corridor), consistent with the railroad's PTC Implementation Plan:

(i) The total number of PTC system initialization failures, and subtotals identifying the number of initialization failures where the source or cause was the onboard subsystem, wayside subsystem, communications subsystem, back office subsystem, or a non-PTC component;

(ii) The total number of PTC system cut outs, and subtotals identifying the number of cut outs where the source or cause was the onboard subsystem, wayside subsystem, communications subsystem, back office subsystem, or a non-PTC component;

(iii) The total number of PTC system malfunctions, and subtotals identifying the number of malfunctions where the source or cause was the onboard subsystem, wayside subsystem, communications subsystem, back office subsystem, or a non-PTC component;

(iv) The total number of enforcements by the PTC system;

(v) The number of enforcements by the PTC system in which an accident or incident was prevented;

(vi) The number of scheduled attempts at initialization of the PTC system; and

(vii) The number of train miles governed by the PTC system.

(2) A host railroad's Biannual Report of PTC System Performance (Form FRA F 6180.152) shall also include a summary of any actions the host railroad and its tenant railroads are taking to reduce the frequency and rate of initialization failures, cut outs, and malfunctions, such as any actions to correct or eliminate systemic issues and specific problems.

(3) Each host railroad shall electronically submit a Biannual Report of PTC System Performance (Form FRA F 6180.152) to FRA by the following due dates: July 31 (covering the period from January 1 to June 30), and January 31 (covering the period from July 1 to December 31 of the prior calendar year).

(4) Each tenant railroad that operates on a host railroad's PTC-governed main line(s), unless the tenant railroad is currently subject to an exception under § 236.1006(b)(4) or (5), shall submit the information required under paragraphs (h)(1) and (2) of this section to each applicable host railroad on a continuous basis.

(5) Any railroad operating a PTC system classified under FRA Type Approval Nos. FRA-TA-2010-001 or FRA-TA-2013-003 must begin submitting the metric required under paragraph (h)(1)(iv) of this section not later than January 31, 2023.

Issued in Washington, D.C.

**Amitabha Bose,**

*Deputy Administrator.*